

2018

NANOSCIENCE, NANOTECHNOLOGY & BEYOND

AMERICAN CHEMICAL SOCIETY
National Meeting & Exposition

Aug. 19-23

Boston | MA

PROGRAM BOOK



ACS
Chemistry for Life®

#ACSBoston

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VISIT THE ACS EXPOSITION & CAREER FAIR!

HALL A, BOSTON CONVENTION & EXHIBITION CENTER

THE NEWLY DESIGNED ACS EXPO FLOOR HAS SOMETHING FOR EVERYONE.

- Visit over 250 companies
- Attend exhibitor workshops and demonstrations
- Network, charge devices, and get social in the Recharge & Social Media Lounge
- Visit with recruiters from top companies and hear exciting, lightning-fast presentations at the Career Fair



Welcome Reception & Poster Sessions

Sunday, August 19 | 5:30 PM – 7:30 PM



Expo & Career Fair Hours

Visit over 250 companies and learn

Monday, August 20 | 9:00 AM – 5:00 PM

Tuesday, August 21 | 9:00 AM – 5:00 PM



Caffeinate & Communicate! Coffee Breaks

Monday, August 20 | 1:00 PM – 3:00 PM

Tuesday, August 21 | 3:00 PM – 5:00 PM



Meet the ACS President-Elect Candidates

Monday, August 20 | 1:00 PM – 4:00 PM

ACS OFFICERS

PETER K. DORHOUT | President
BONNIE A. CHARPENTIER | President Elect
ALLISON A. CAMPBELL | Immediate Past President
JOHN E. ADAMS | Chair, Board of Directors
THOMAS M. CONNELLY | Executive Director & CEO
FLINT H. LEWIS | Secretary & General Counsel
BRIAN A. BERNSTEIN | Treasurer & CFO

American Chemical Society

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 EMAIL | help@acs.org
 WEBSITE | www.acs.org

The American Chemical Society is a self-governed individual membership organization of members at all degree levels and in all fields of chemistry. The Society provides a broad range of opportunities for peer interaction and career development, regardless of professional or scientific interests. The programs and activities conducted by ACS today are the products of a tradition of excellence in meeting member needs that dates from the Society's founding in 1876.

The American Chemical Society publishes this meeting program as a service to its attendees. Information contained herein is subject to change without notice. While every effort is made to ensure accuracy, ACS makes no warranties, expressed or implied, related to the information. For the official technical program for the 256th National Meeting & Exposition, refer to the ACS Meetings & Events Mobile App.



ACS
Chemistry for Life®



STRATEGIC PLAN

for 2018 and Beyond

Visit strategy.acs.org

Learn how to **get involved** and how **ACS serves you**




Welcome Message from Peter K. Dorhout

ACS PRESIDENT



Welcome to Boston, and the site of the 256th ACS National Meeting. It is my pleasure to welcome all of you to this beautiful and historic city.

Coming here, you join thousands of presenters and attendees to network, learn, and share your science with colleagues as well as welcome new members to your professional community. With the meeting theme of “Nanoscience, Nanotechnology & Beyond,” there are bound to be symposia that pique your interests.

On Sunday, I hope you are able to attend the Presidential symposium Moving the Safety Values of the ACS Forward. As many of you know, the safe practice of chemistry is a passion of mine, and I welcome the opportunity to bring even greater focus to this core value of ACS. On Monday, there are several Presidential symposia: Growing with Project SEED, Ion Transport at the Nanoscale, and a symposium organized by the Environmental Division – Synthetic Biology: The State of the Science. Join your colleagues later that evening at the Graduate Education Advisory Postdoctoral Reception, featuring science cartoonist Jorge Cham.

On Monday at noon, join your colleagues at the ACS Board of Directors Regular Session featuring Nobel Laureate Sir Fraser Stoddart. Later that afternoon, Jill Millstone from the University of Pittsburgh will present the Kavli Foundation Emerging Leader in Chemistry Lecture on Metal-Ligand Chemistry in Nanoparticle Synthesis and Performance. Following her presentation, Harry Atwater of the California Institute of Technology will give the Fred Kavli Innovations in Chemistry Lecture on Light as Fuel. On Monday afternoon, we will honor and recognize the outstanding accomplishments of our 2018 class of ACS Fellows.

Along with the rich technical program, there are a myriad of career development programs for undergraduate and graduate students, postdocs, and chemical professionals. The career fair will provide opportunities for on-site interviews, one-on-one career assistance, and career-related workshops. Don't forget to stop by the exposition hall featuring several hundred companies showcasing services, instruments, books, and lab equipment.

In closing, I'd like to ensure everyone has safety on their mind as they travel and participate in this enormous gathering. Each of us has the responsibility to continue to instill a culture of safety – for ourselves and our colleagues. If you notice an unsafe situation, please take the time to bring it to the attention of someone in the Convention Center or your hotel.

I know this will be a tremendously successful meeting, and I thank you all for your contributions. My personal thanks go to our hosts at the Northeastern Section, and the divisional program chairs and symposium chairs responsible for organizing the technical sessions.

A handwritten signature in black ink, appearing to read 'Peter K. Dorhout'. The signature is stylized and fluid.

PETER K. DORHOUT
ACS President



PRESIDENTIAL SYMPOSIA AND EVENTS

Sponsored and Recommended by the ACS President

256th ACS National Meeting • Boston, MA • August 19-23, 2018



Photo: Peter Curtis Photography

Peter K. Dorhout, Ph.D.
ACS President

SATURDAY, AUGUST 18, 2018

11:00 am - 2:00 pm

Presidential Outreach Event: ACS Kids Zone – Exploring Our World Through Chemistry [Cosponsored by CCA]
(Boston Children's Museum - 308 Congress Street, Boston, MA)

SUNDAY, AUGUST 19, 2018

8:30 am - 3:30 pm

Moving the Safety Values of the ACS Forward [Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CHAS, CCS, CINF, CPT, COLL, ENFL, ENVR, I&EC, ORGN, PROF, SCHB, WCC & YCC]
Boston Convention & Exhibition Center - Room 103 (Meeting Level 1)

OTHER SYMPOSIA RECOMMENDED BY THE ACS PRESIDENT

SUNDAY, AUGUST 19, 2018

1:00 pm - 3:35 pm

Chemistry as a Second Language: Strategies for Global Scientific Communication [Sponsored by YCC and Cosponsored by PRES and IAC]
Westin Boston Waterfront - Marina Ballroom II (Lobby Level)

1:30 pm - 3:15 pm

Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in Honor of Barbara Belmont [Sponsored by PROF and Cosponsored by PRES, CMA & WCC]
Aloft Boston Seaport - Mann 1/2 (First Floor)

MONDAY, AUGUST 20, 2018

9:00 am - 12:05 pm

Artificial Intelligence and Its Impact on the Chemical Enterprise [Sponsored by YCC and Cosponsored by PRES]
Westin Boston Waterfront - Marina Ballroom II (Lobby Level)

MONDAY, AUGUST 20, 2018

8:00 am - 4:35 pm

Ion Transport at the Nanoscale: Research and Capabilities at the DOE's Nano Centers [Cosponsored by ANYL, CHAS, COLL, COMSCI, ENFL, ENVR, GEOC & SCHB]
Boston Convention & Exhibition Center - Room 103 (Meeting Level 1)

8:30 am - 11:30 am

Growing with Project SEED: 50 Years and 10,000+ Students [Cosponsored by SEED, AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CHAS, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF, SCHB, SOCED, WCC & YCC]
Sheraton Boston Hotel - Back Bay D (2nd Floor)

8:30 am - 5:00 pm

Synthetic Biology: The State of the Science [Sponsored by ENVR and Cosponsored by PRES]
Boston Convention & Exhibition Center - Room 257 B (Meeting Level 2)

7:00 pm - 8:30 pm

Graduate and Postdoctoral Scholars Lecture & Reception – Featuring Cartoonist Jorge Cham
Boston Convention & Exhibition Center - Ballroom West (Ballroom Level 3)

TUESDAY, AUGUST 21, 2018

8:30 a.m. - 6:00 p.m.

Advances in Human Space Exploration: Second ACS NASA Symposium [Sponsored by POLY and Cosponsored by PRES]
Westin Boston Waterfront - Grand Ballroom D (Concourse Level);
Grand Ballroom A (4:00 pm - 6:00 pm)

1:30 pm - 4:30 pm

Celebrating the Success of an Exchange Program for German & American Chemistry Students [Sponsored by CHED and Cosponsored by PRES, IAC, YCC, ACS Northeastern Local Section, and the German Chemical Society]
Seaport Hotel & World Trade Center - Waterfront Ballroom 1A/1B (Ground Floor - Harbor Level)

1:30 pm - 4:45 pm

The Role of the Chemical Sciences in Brain Research and the BRAIN Initiative [Sponsored by MPPG and the Kavli Foundation, and Cosponsored by PRES]
Boston Convention & Exhibition Center - Room 103 (Meeting Level 1)

5:30 pm - 7:30 pm

LGBTQ+ Presidential Reception
Sheraton Boston Hotel - Back Bay B (2nd Floor)

Welcome Message from Paul S. Weiss

BOSTON THEMATIC CHAIR



The 256th ACS National Meeting (Boston, August 19–23) will showcase topics on Nanoscience, Nanotechnology & Beyond.

The opening session on Sunday, August 19, will inaugurate the theme “Nanoscience, Nanotechnology & Beyond” with a lecture presented by Dr. Leroy Hood, founding director of the Institute for Systems Biology, Seattle, Washington, and chief science officer of Providence St. Joseph Health, entitled “Opportunities for Nanoscience, Nanotechnology, & Chemistry in the Future of Medicine.”

On Monday, August 20, the Fred Kavli Innovations in Chemistry Lecture will be delivered by Dr. Harry Atwater, California Institute of Technology, founding editor-in-chief of ACS Photonics. His lecture, entitled “Light as Fuel,” will address challenges in using light to generate chemical fuels. It will be coupled with the Kavli Foundation Emerging Leader in Chemistry Lecture, delivered by ACS Nano associate editor Prof. Jill Millstone, University of Pittsburgh, on her fascinating work on metal-ligand chemistry in nanoparticle synthesis and performance. You won’t want to miss it!

ACS divisions worked to create an amazing program that highlights nanoscience. Twenty divisions are offering more than 90 symposia related to the theme. In addition, our Multidisciplinary Planning Group MPPG, partner divisions, and ACS journal editors added 12 symposia on the theme. Some of the highlights of those symposia include the following:

Synthesis & Characterization of Nanomaterials for Sustainable Energy: Stanislaus Wong (SUNY Stony Brook), Hongjin Fan (Nanyang Technological University), and Mato Knez (NanoGUNE Cooperative Research Center).

Nanostructured Materials for Energy Harvesting & Storage: Jinsong Huang (UNC), Marina Leite (University of Maryland), and Matthew McDowell (Georgia Tech).

Nano in Tissue Engineering: Molly Stevens (Imperial College London) and Ali Khademhosseini (UCLA).

The Role of the Chemical Sciences in Brain Research & the BRAIN Initiative: Jonathan Sweedler (University of Illinois)

Nanophotonics: Jason Hafner (Rice), Naomi Halas (Rice), and Peter Nordlander (Rice).

New Advances in 3D Nanoprinting: Alireza Khademhosseini (MIT) and Gang yu Liu (UC Davis).

We look forward to seeing you there!

A handwritten signature in black ink, appearing to read 'P. S. Weiss', written over a light-colored background.

PAUL S. WEISS, UCLA and ACS Nano
Thematic Program Chair

2018

NANOSCIENCE, NANOTECHNOLOGY & BEYOND

AMERICAN CHEMICAL SOCIETY
National Meeting & Exposition

Aug. 19-23

Boston | MA

OPENING SESSION



MODERATED BY PAUL WEISS

Boston 2018 Thematic Organizer

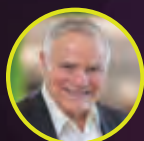
Sunday, August 19, 2018 | 4:00 PM

Boston Convention & Exhibition Center — Ballroom West

21st Century Medicine Will Transform Healthcare:

Opportunities for Nanoscience and Chemistry

LEROY HOOD — Institute for Systems Biology



WELCOME RECEPTION IN THE EXPO & CAREER FAIR

Sunday, August 19, 2018 | 5:30 – 7:30 PM

Boston Convention & Exhibition Center — Hall A

MPPG SPONSORED THEMATIC PROGRAMMING

Synthesis & Characterization of Nanomaterials for Sustainable Energy*

Sunday, August 19, and Monday, August 20

Organizers: Hongjin Fan, Mato Knez

Presider: Stanislaus Wong

Nanostructured Materials for Energy Harvesting & Storage

Sunday, August 19

Organizers: Jinsong Huang, Marina Leite, Matthew McDowell

Nano in Tissue Engineering

Tuesday, August 21

Organizers: Alireza Khademhosseini, Molly Stevens

The Role of the Chemical Sciences in Brain Research & the BRAIN Initiative**

Tuesday, August 21

Organizer: Jonathan Sweedler

Nanophotonics

Tuesday, August 21, and Wednesday, August 22

Organizers: Jason Hafner, Naomi Halas, Peter Nordlander

New Advances in 3D Nanoprinting

Thursday, August 23

Organizers: Alireza Khademhosseini, Gang-Yu Liu

*Co-sponsored by the Division of Inorganic Chemistry (INOR) | ** Sponsored by the Kavli Foundation



CITY OF BOSTON • MASSACHUSETTS

OFFICE OF THE MAYOR
MARTIN J. WALSH

August 19, 2018

Dear Friends,

On behalf of the City of Boston, it is my honor to welcome you to the American Chemical Society's national meeting. Thank you for choosing the City of Boston for this important occasion to network among leading professionals in your field and learn the best practices in your industry.

While you are here, take some time to relax and explore the city. Dine in our incomparable restaurants; enjoy some of the great history our city has to offer. Please tour our historic neighborhoods like Beacon Hill and our national landmarks such as Faneuil Hall, and the Old State House. From shopping on Newbury Street, to kayaking on the Charles River, I am sure you will enjoy your stay in the City of Boston.

Best wishes for an enjoyable event and many more successes in the years to come.

Sincerely,

Martin J. Walsh
Mayor of Boston



**GREATER BOSTON
CONVENTION & VISITORS BUREAU**

August 17, 2018

Dear Attendees of the American Chemical Society,

On behalf of the Greater Boston Convention & Visitor Bureau (GBCVB), it is my pleasure to welcome the American Chemical Society (ACS) to Boston for the ACS National Meeting & Expo. We are delighted to have you here.

Boston is a cosmopolitan city, bustling with innovators and entrepreneurs, global financial and business leaders, alongside students and tourists from every corner of the globe. Our culinary scene is diverse and distinguished, where regionally sourced seafood and farm-to-table offerings blend seamlessly with eclectic ethnic cuisines. Boston's rich tableau of public art, immersive festivals, iconic museums, and award-winning theater companies provide entertainment and cultural opportunities that meet every preference. Please take advantage of your time with us and immerse yourself in one of the region's premier destinations for meetings and conventions.

The South Boston Waterfront - also known as the Seaport District - will be your center of activity. The Seaport is an evolving neighborhood and its transformation over the last decade continues. Anchored by the Boston projects Convention and Exhibition Center development continues at a blistering pace - with more than \$4.5 billion in the pipeline.

The ACS National Meeting & Expo will make its own mark on our city, and we welcome you to join our story and contribute to it as well. Again, the Bureau is here to assist with all your needs and please enjoy your time in Boston.

Pat Moscaritolo

Pat Moscaritolo

President & CEO
GBCVB

The Northeastern Section of the American Chemical Society



GAC, WCC, and NYSCC at the January 2017 monthly meeting



German Exchange Group in Frankfurt



NESACS Education Night
Avery Ashdown High School Chemistry
Examination Contest Awardees



warmly welcomes you to Boston!



At Museum of Science for 2017
National Chemistry Week



2016 Richards Medal winner
Dr. Gabor Somorjai, Mrs. Somorjai
and committee



December 2017 Medicinal Chemistry Symposium
Speakers and Organizers



Penn's Master of Chemical Sciences

Designed for your success

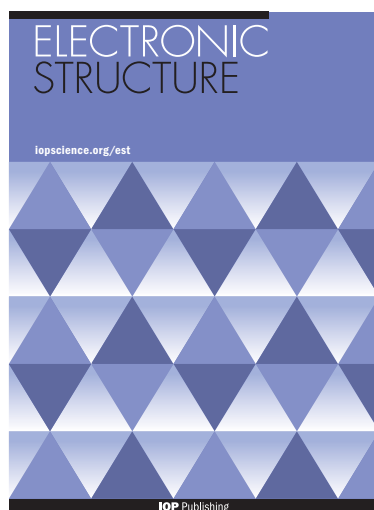
- Practical research experiences and industry connections
- Six specialized concentrations for theoretical and technical expertise
- Access to state-of-the-art Singh Center for Nanotechnology

Visit our booth and discover how Penn's Master of Chemical Sciences can activate your future.

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IOP Publishing's home for nanoscale research across all disciplines.

nano-futures.org
iopscience.org/est

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MEETINGS & EVENTS

MOBILE APP

DOWNLOAD THE OFFICIAL MEETING PROGRAM FOR THE 2018 BOSTON NATIONAL MEETING

- Stay organized with up-to-the-minute Technical Session, Exhibitor, and Event information
- Receive real-time communications from ACS
- Locate exhibitors and sessions
- Build a personalized schedule and bookmark exhibitors
- Connect with your colleagues
- Stay in-the-know and join in on social media
- Share your event photos and experiences with the Activity Feed
- Find Boston local places
- **AND MUCH, MUCH MORE!**

DOWNLOADING THE APP IS EASY!

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VISIT | <http://app.core-apps.com/acsboston18>

SEARCH | Search in Apple or Play stores: **ACS Meetings & Events**



Welcome to Boston and the 256th National Meeting of the American Chemical Society.

During the next five days, you will be among thousands of chemical professionals from around the globe who will share ideas and examine emerging scientific and technical knowledge on Nanoscience, Nanotechnology & Beyond. The meeting organizers have planned an agenda that includes thought-provoking technical sessions and career advancement workshops complemented by a number of social events and networking opportunities.

Your meeting registration gives you entry to a range of programming activities, including:

- Award Presentations
- Exposition Hall and Career Fair
- Invited Symposia
- Scientific and Poster Sessions
- Special Lectures, Workshops, and Events

Mobile App

The South Boston Waterfront area will be the primary meeting location, with technical sessions taking place in the Boston Convention & Exhibition Center (BCEC) and nearby hotels. A few select events will occur in hotels in the city's Back Bay neighborhood.

Be sure to download the ACS Meetings & Events Mobile App and select the 256th ACS National Meeting & Exposition to have the most up-to-date meeting information. Using the app is the best way to stay informed of last-minute program changes. You can also access up-to-date program information and sync your schedule using the Online Planner. Access and download information is available at www.acs.org/nationalmeeting.

ACS Operations Offices

BOSTON CONVENTION & EXHIBITION CENTER

Location: Room 151A/B
Beverly Johnson-Hampton,
617-954-3950

ALOFT BOSTON SEAPORT

Location: Tactic 3
Paulette Nowden, 857-444-8323
x8323

BOSTON PARK PLAZA

Location: Hancock
Starleetah Gaddis-Parker,
617-457-2339

HILTON BACK BAY

Location: Mariner
Nikki Fisher, 617-867-6425

RENAISSANCE BOSTON WATERFRONT HOTEL

Location: Aegean
Dianne Ruddy, 617-342-5440

SEAPORT BOSTON

Location: Liberty A
Brianna Ortiz,
617-385-4059 & 617-385-4060

SEAPORT WORLD TRADE CENTER

Location: South End
Starleetah Gaddis-Parker,
617-385-4920 & 617-385-4922

SHERATON BOSTON

Location: Meeting Planner Office
3rd Floor
Nikki Fisher, 617-351-6824

WESTIN WATERFRONT

Location: Revere
Sydney Vranna, 617-502-2274

General Meeting Information

ACS Specialty Offices

ACS JOURNALS OFFICE

Boston Park Plaza
Location: Stuart Suite

GOVERNANCE OFFICE

Sheraton Boston
Location: Gardner A/B
617-351-6855

HEROES OF CHEMISTRY

Westin Copley Plaza
Location: Empire Suite

SOCIETY PROGRAMS OFFICE

Sheraton Boston
Location: Fairfax A/B
617-351-6868

ACS Resource Offices

All located in the Boston
Convention & Exhibition Center

ATTENDEE REGISTRATION

Location: North Lobby
617-954-3956

BUS SHUTTLE DESK

Location: North Lobby
TMS, 617-954-3414

CAREER FAIR INFORMATION CENTER

Location: Hall A

EXHIBITOR REGISTRATION

Location: North Lobby
617-954-3958

HOUSING HELP DESK

Location: North Lobby
ConferenceDirect, 617-954-3413

MEMBER LOUNGE

Location: North Lobby
617-954-3412

MOBILE APP HELP DESK

Location: North Lobby

NORTHEASTERN LOCAL SECTION

Location: North Lobby
617-954-3413

PRESS CENTER

Location: Room 156A
Katie Cottingham, 617-954-3960

SPEAKER READY ROOM

Location: Room 158

Attendee Resources

CAMP ACS

Camp ACS is available to all meeting attendees free of charge from 7:00 AM to 6:00 PM, Sunday, August 19, through Thursday, August 23. If you wish for your child to participate in Camp ACS and you did not complete the registration in advance, go to the BCEC ACS Operations Office to speak with a staff person. Note: There is no guarantee that space is still available.

At Camp ACS, children two (and potty trained) to sixteen years of age will participate in age-appropriate activities, including arts and crafts and active games, while you enjoy the meeting.

For safety reasons, the location of Camp ACS is communicated only to attendees with enrolled children.

EMERGENCIES

ACS has placed detailed instructions inside each meeting room to be used if an emergency occurs during an ACS meeting event. These instructions revolve around following the established

emergency guidelines of the facility where the emergency occurs.

Report all emergencies to the nearest security guard or to any ACS Operations Office during the meeting.

If an emergency occurs outside an ACS event, contact the police or emergency assistance by dialing 911 or seeking assistance from the facility where the emergency occurs.

Should a catastrophic event occur while the meeting is underway, follow safety and security instructions issued by the facility where you are located at the time of the event.

LOST & FOUND

Found items delivered to an ACS Operations Office can be retrieved, with acceptable identification, during office operating hours. Items not retrieved by the close of the meeting will be turned over to the venue's security office.

LUGGAGE & COAT CHECK

The luggage and coat check station is in the ACS Resource Hub located in the BCEC.

Hours of Operation

Saturday, August 18

3:00 PM-7:00 PM

Sunday, August 19

7:30 AM-8:00 PM

Monday, August 20

7:30 AM-9:00 PM

Tuesday, August 21

7:30 AM-9:00 PM

Wednesday, August 22

7:30 AM-6:00 PM

Thursday, August 23

7:30 AM -6:00 PM

Items left beyond the published hours of operation will be turned over to building security at the end of each day.

PARENT/INFANT ROOM

For convenience and privacy, ACS has designated a room for parents in the BCEC for nursing, feeding, and changing infants. Please see the staff at the Information Booth in the North Lobby for further information.

SALES TAX IN BOSTON

The sales tax rate in Boston is 6.25%.

GENERAL TIPPING GUIDELINES

Airport Porters & Bell Staff: \$1/bag

Bartenders: 15–20%

Restaurant Wait Staff: 18–20%

Housekeeping Staff: \$1–2/night

WI-FI SERVICE

Enjoy free Wi-Fi service in the common areas of the BCEC.

Meeting Policies

RECORDING & PHOTO RELEASE POLICIES

The use of any device to capture images (e.g., cameras and camera phones) or sound (e.g., tape and digital recorders) or stream, upload or rebroadcast speakers or presentations is strictly prohibited at all official ACS meetings and events without the express written consent from the ACS.

By registering for this public event, attendees grant to the American Chemical Society, its affiliates and licensees (collectively referred

to as “the Society”), royalty-free permission, including the exclusive worldwide, irrevocable rights in all languages, to reproduce in all formats, including but not limited to print, microfilm, electronic, and/or CD-ROM, likeness as shown in the photograph(s) or recordings taken by official meeting photographers at the American Chemical Society National Meeting & Exposition.

Attendees waive the right to inspect or approve any copy that is used in connection with the photographs and release and discharge the Society from any and all claims arising out of use by the Society of the photographs for the purposes described above, including any claims for libel and invasion of privacy.

ADA COMPLIANCE

ACS is dedicated to ensuring that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently because of the absence of auxiliary aids and services identified in the Americans with Disabilities Act. If you have an emergency or need immediate assistance during the meeting, please contact any ACS Operations Office.

The BCEC is ADA compliant. It is equipped with service ramps to entrances and elevated areas, an array of passenger elevators, restroom facilities for the disabled, braille instructions/directions at strategic locations throughout the building, and pay phones located at each level of the facility with (TDD) hearing-impaired functions.

ELECTRONIC DEVICES

As a courtesy to other meeting attendees, electronic devices must be operated in silent/vibrate mode within technical or educational sessions. Cell phone conversations are not permitted in meeting rooms.

LITERATURE & PRODUCT DISTRIBUTION

Promotions, posters, and literature distribution by attendees, exhibitors, or other groups during the meeting must be done within their own contracted meeting space or exhibit booth and not in public meeting space, with the exception of designated marketing opportunities. Only ACS Operations Office staff is authorized to place any promotional items in public meeting space. Items left in violation of this policy will be removed and discarded.

Literature distribution at specific division tables is under the control of that division, and permission must be secured from the division before placing any items on its table.

SMOKING

ACS policy prohibits smoking in all official meeting venue rooms during ACS functions. Additionally, as a reminder, the Convention Center and hotels are self-determined smoke-free environments at all times.

General Meeting Information

Be Mindful & Aware

EVERYDAY SAFETY TIPS

- Be aware of your surroundings at all times.
- If someone or something looks suspicious, report it and/or avoid it.
- Walk in open and well-lit areas at night.
- Travel in groups; do not be a loner, particularly in the evening.

HOTEL SAFETY & SECURITY

- Use the hotel safe deposit service or the in-room safe for valuables.
- If you leave items in your luggage, lock it when you leave the room.
- In crowded areas where you can be overheard, do not reveal your room number or discuss plans for leaving the hotel.

TO & FROM YOUR ROOM

- If, for any reason, you are uncomfortable going to your room alone, ask a bellman or security officer to escort you and to check the room before you enter.
- Do not automatically open your door when someone knocks; use the door peephole to identify visitors before opening the door.
- Look into the elevator carefully before you enter. If you are uncertain about an occupant, wait for the next elevator.
- Look down the corridor carefully for suspicious activity before leaving the elevator.

TO & FROM EVENTS

- Remain alert at all times, and be aware of your surroundings and the people you encounter.
- Remove your name badge when you are outside meeting venues.

Attendee Registration

BOSTON CONVENTION & EXHIBITION CENTER, NORTH LOBBY

Hours of Operation

Saturday, August 18

3:00 PM–6:00 PM

Sunday, August 19

7:30 AM–8:00 PM

Monday, August 20

7:30 AM–9:00 PM

Tuesday, August 21

7:30 AM–7:00 PM

Wednesday, August 22

7:30 AM–7:00 PM

Thursday, August 23

7:30 AM–1:00 PM

SATELLITE REGISTRATION: SHERATON BOSTON, 2ND FLOOR REGISTRATION DESK

Hours of Operation

Saturday, August 18

3:00 PM–6:00 PM

Sunday, August 19

7:30 AM–8:00 PM

Monday, August 20

7:30 AM–9:00 PM

Tuesday, August 21

7:30 AM–7:00 PM

WHAT YOU CAN DO AT THE REGISTRATION DESK

Register for the meeting

Register on site or pick up your badge and registration credentials — all who registered after July 9 and all international attendees.

Get a replacement badge

Make changes to your registration. Bring your badge and/or registration credentials with you for faster processing.

Pick up your advance purchased Program Book.

A limited quantity are available for purchase on site, only in the BCEC.

Request a scooter

Purchase special & social event tickets

All attendees, including speakers and poster presenters, MUST register for the meeting to attend or present in technical sessions.

BADGE & BADGE REPLACEMENT

Remember to wear your badge at all times for admission to all official ACS events in meeting properties.

Meeting badge holders are recyclable and biodegradable. Please discard in the Badge Recycle bins positioned throughout the meeting venues.

If you misplace your badge and need a replacement, please go to Attendee Registration at BCEC. The badge replacement fees are:

- 1st replacement: free
- 2nd: \$25 (cash/credit card)
- 3rd: \$50 (cash/credit card)
- 4th & beyond: \$100 each occurrence (cash/credit card)

CANCELLATION/REFUND

Cancellation/refund requests received by July 30, 2018, will receive a refund, minus a \$50 administrative fee. Requests received after July 30, 2018, are not eligible for a refund. Please direct questions regarding refunds to CDS at 508-743-0192 or 800-251-8629. Abstract USB drives and Program Books do not qualify for a refund.



AMERICAN CHEMICAL SOCIETY Volunteer/National Meeting Attendee Conduct Policy

One of the key strengths of the ACS has been the enduring and varied contributions made by its thousands of dedicated volunteers.

Another unassailable strength of the ACS is its outstanding national meetings program. ACS national meetings are among the most respected scientific meetings in the world. ACS national meetings offer scientific professionals a legitimate platform to present, publish, discuss, and exhibit the most exciting research discoveries and technologies in chemistry and its related disciplines. Furthermore, ACS national meetings facilitate networking opportunities, career development and placement, and provide organizations with opportunities to exhibit products and services to targeted audiences.

The Society's Congressional Charter explicitly lists among its objectives "the improvement of the qualifications and usefulness of chemists through high standards of professional ethics, education and attainments...." The ACS expects its volunteers and national meeting attendees to display the highest qualities of personal and professional integrity in all aspects of their ACS-related activities. Indeed, every chemical professional has obligations to the public, to volunteer and staff colleagues, and to science.

Accordingly, and to foster a positive environment built upon a foundation of trust, respect, open communications, and ethical behavior, the ACS Board of Directors has issued this Conduct Policy. It applies to ACS Volunteers, i.e., it applies to individuals conducting the business and affairs of the ACS without compensation for that conduct. It also applies to attendees at ACS national meetings. Volunteers and national meeting attendees should at all times abide by this Conduct Policy. Specifically:

1. Volunteers should understand and support ACS's vision and mission.
2. Volunteers and national meeting attendees should contribute to a collegial, inclusive, positive, and respectful environment for their fellow volunteers and attendees, as well as for other stakeholders, including national meeting vendors and ACS staff.
3. Volunteers and national meeting attendees must avoid taking any inappropriate actions based on race, gender, age, religion, ethnicity, nationality, sexual orientation, gender expression, gender identity, marital status, political affiliation, presence of disabilities, or educational background. They should show consistent respect to colleagues, regardless of the level of their formal education and whether they are from industry,

government, academia, or other scientific and engineering disciplines.

4. Volunteers and national meeting attendees should interact with others in a cooperative and respectful manner. Volunteers and national meeting attendees should refrain from using insulting, harassing, or otherwise offensive language in their ACS interactions. Disruptive, harassing, or inappropriate behavior toward other volunteers, stakeholders, or staff is unacceptable. Personal boundaries set by others must be observed. Harassment of any kind, including but not limited to unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment will not be tolerated.

5. Volunteers must obey all applicable laws and regulations of the relevant government authorities while acting on behalf of the ACS. Likewise, national meeting attendees must obey all applicable laws and regulations of the relevant government authorities while attending ACS national meetings. Volunteers and national meeting attendees alike should also ensure that they comply with all applicable safety guidelines relating to public chemistry demonstrations.

6. Volunteers and national meeting attendees should only use ACS's trademarks, insignia, name, logos, and other intellectual property in compliance with ACS regulations and directives as may be issued from time to time.

7. Violations of this Conduct Policy should be reported promptly to the ACS Secretary and General Counsel or to the Chair of the ACS Board of Directors. In cases of alleged persistent and/or serious violations of this Conduct Policy, the Board shall review the evidence and shall take such actions as may be appropriate, including but not limited to requiring volunteers to leave their volunteer position(s), precluding volunteers from serving in Society volunteer roles in the future, requiring national meeting attendees to leave the meeting, and precluding meeting attendees from attending future ACS national meetings. ACS, through its Board of Directors, reserves the right to pursue additional measures as it may determine are appropriate.

Adopted by the Board of Directors 12/6/13

ACS RESOURCE HUB

NORTH LOBBY, BOSTON CONVENTION & EXHIBITION CENTER

SATURDAY, August 18.....3:00 PM – 6:00 PM

SUNDAY, August 19.....8:00 AM – 5:00 PM

MONDAY, August 208:00 AM – 5:00 PM

TUESDAY, August 21.....8:00 AM – 5:00 PM

WEDNESDAY, August 22.....8:00 AM – 5:00 PM

THURSDAY, August 23.....8:00 AM – 1:00 PM



ACS MEMBER LOUNGE

Join, renew, or chat about ACS membership and the great benefits.



MOBILE APP HELP DESK

Have questions about the ACS Meetings & Events Mobile App? Stop by for all the answers.



NORTHEASTERN LOCAL SECTION

Learn more about the ACS Local Section host!



LOUNGE AREA WITH CHARGING SPOTS

Meet up with colleagues and recharge your devices.



HOUSING HELP DESK

Have a question about hotel reservations? ConferenceDirect is here to help.

Accommodations

For attendees in need of housing, some official National Meeting hotels may still have rooms available. Visit www.acs.org/nationalmeeting for the list of official hotels.

ConferenceDirect is the official housing bureau for the National Meeting, and ACS does not endorse booking hotel reservations through any other source. All attendees who make reservations through ConferenceDirect will receive complimentary internet access in their rooms.

ConferenceDirect will be located in the ACS Resource Hub in the BCEC North Lobby throughout the National Meeting to assist you with last-minute housing changes or needs.

Traveling to Meeting Venues

ACS SHUTTLE BUS

Many of the official hotels are in walking distance to the BCEC. ACS will provide complimentary shuttle bus service between the BCEC and official hotels that are not in walking distance. For more information, refer to the Shuttle Map located on Page 20.

DAILY PARKING AT THE BCEC

Valet Parking: Valet parking (\$30) is available during most events. Cash and all major credit cards are accepted.

BCEC South Parking Lot:

Space is limited and is available on a first come, first served basis. Rates are \$18 for regular-sized vehicles and \$36 for oversized vehicles.

Alternate Parking: Additional parking may be available at the Boston Marine Industrial Park (BMIP) Garage, which is within walking distance of the BCEC. Space is available on a first come, first served basis.

PUBLIC TRANSPORTATION

Boston's public transportation system, the MBTA, connects all of Boston and its suburbs by subway, rail, bus, and even boat. Visit www.mbta.com for more information.

TAXI SERVICE

The city of Boston has an extensive taxi service. Your hotel concierge can assist you with arranging taxi service.

RIDESHARE SERVICES

Lyft and Uber operate in Boston. Download the respective apps in your mobile app store for pricing and availability.

JOIN
ACS Before
August 23 and
SAVE!

Get a refund for up to \$400 on registration fees by becoming an ACS Member. Visit the Member Lounge in the BCEC North Lobby to join!

2018

**NANOSCIENCE,
NANOTECHNOLOGY
& BEYOND**

AMERICAN CHEMICAL SOCIETY
National Meeting & Exposition

Aug. 19–23

Boston | MA

SHUTTLE HOURS OF OPERATION

Sunday, August 19, 2018

7:00 AM – 10:00 AM . . . every 15 minutes
10:00 AM – 4:00 PM . . . every 30 minutes*
4:00 PM – 7:00 PM . . . every 15 minutes
7:00 PM – 11:00 PM . . . every 30 minutes*

Monday, August 20, 2018

7:00 AM – 10:00 AM . . . every 15 minutes
10:00 AM – 4:00 PM . . . every 30 minutes*
4:00 PM – 11:00 PM . . . every 15 minutes

Tuesday, August 21, 2018

7:00 AM – 10:00 AM . . . every 15 minutes
10:00 AM – 4:00 PM . . . every 30 minutes*
4:00 PM – 11:00 PM . . . every 15 minutes

Wednesday, August 22, 2018

7:00 AM – 11:00 PM . . . every 30 minutes*

Thursday, August 23, 2018

7:00 AM – 6:00 PM . . . every 60 minutes

*Departs BCEC on the hour and half hour.

Please note: Shuttle interval times can be affected by weather and traffic conditions.

Map Number	Location	Shuttle Boarding Location	Shuttle Boarding Station
1	Boston Convention & Exhibition Center (BCEC) AGFD, AGRO, ANYL, BIOL, CHAL, COLL, COMSCI, ENVR, GEOC, INOR, MEDI, MPPG, ORGN, PHYS, PRES	East Side Drive	A
2	Aloft Boston Seaport BMGT, CARB, CELL, PROF, SCHB	Walk to Boston Convention & Exhibition Center	
3	Boston Marriott Copley Place	Walk to Westin Copley Place	B
4	Omni Parker House Hotel	Corner of Beacon Street at the Citizen Bank	C
5	Boston Park Plaza Hotel	Valet Entrance on Columbus Avenue	D
6	Courtyard Boston Downtown	Curbside on Tremont Street	E
7	DoubleTree by Hilton Hotel	Walk to Courtyard Boston Downtown	E
8	Element Boston Seaport	Walk to Boston Convention & Exhibition Center	
9	Fairmont Copley Plaza	Walk to Westin Copley Place	B
10	Hilton Boston Back Bay	Cross Dalton Street to Sheraton	F
11	Hyatt Regency Boston	Curbside on Avenue de Lafayette	H
12	InterContinental Boston	Curbside on Atlantic Avenue	I
13	Renaissance Boston Waterfront CATL, ENFL	Walk to Boston Convention & Exhibition Center	
14	Seaport Boston & World Trade Center CHAS, CHED, HIST, I&E, NUCL, PRES, SOCED, WCC	Walk to Boston Convention & Exhibition Center	
15	Sheraton Boston Hotel (<i>Governance</i>)	Curbside on Dalton Street	F
16	Westin Boston Waterfront CINF, COMP, PMSE, POLY, PRES, TOXI, WCC, YCC	Walk to Boston Convention & Exhibition Center	
17	Westin Copley Place	Curbside on Huntington Avenue	B

CAMPUS MAP



For all shuttle inquiries and wheelchair assistance, please call TMS: **1.866.439.8564**



Shuttle Route Legend

Blue	Route 1
Green	Route 2
Red	Route 3
Black	Route 4
Orange	Route 5

EXHIBITOR WORKSHOPS

Exhibiting companies will host **FREE** educational sessions for attendees that will introduce new products and services, highlight innovative applications for existing instrumentation, and build skills with specific tools and techniques.

Sessions will take place Sunday-Tuesday on the Expo Floor and Room 155 at the BCEC.

INNOVATION FAIR

Visit the Innovation Fair exhibitors to see the most cutting-edge products and services provided by brand-new companies just starting out in the chemical industry!

Located on the Expo Floor, booths #2608-2713





20th Annual ChemLuminary Awards

HONORING OUR VOLUNTEERS

Tuesday, August 21, 2018
Boston Park Plaza

8PM Poster Session & Reception
Statler Room

9PM Ceremony
Grand Ballroom A/B

10PM After Party
Grand Ballroom A/B



ACS
Chemistry for Life®

AMERICAN CHEMICAL SOCIETY
www.acs.org/chemluminary

Undergraduate students, graduate students, high school teachers, and chemical professionals will have the opportunity to participate in a number of education-focused programs and specialty activities developed specifically for each group.

Explore these opportunities in depth at www.acs.org/nationalmeeting.

Undergraduate Program

Program Chair: Amy Keirstead, University of New England, akeirstead@une.edu

The Society Committee on Education's Undergraduate Programs Advisory Board has planned a vibrant program designed especially for undergraduate students. The technical symposia and workshops will focus on essential skills for employment in chemistry and success in graduate school.

2018

NANOSCIENCE, NANOTECHNOLOGY & BEYOND

AMERICAN CHEMICAL SOCIETY
National Meeting & Exposition

Aug. 19–23

Boston | MA

CORE STUDENT PROGRAM

SATURDAY, AUGUST 18, 2018

10:00 AM – 2:00 PM

ACS Kids Zone | Boston Children's Museum
Sponsored by the ACS Committee on Community Activities

SUNDAY, AUGUST 19, 2018

8:30 AM – 5:00 PM

Student Hospitality Center • Seaport World Trade Center, Cityview Ballroom 1

8:30 AM – 5:00 PM

Undergraduate Research Papers (Oral) • Seaport World Trade Center, Cambridge 1/2

9:00 – 10:00 AM

The Road Not Taken • Seaport World Trade Center, Cityview Ballroom 2

10:00 – 11:15 AM

Graduate School: The Ins and Outs of Getting In • Seaport Boston Hotel, Plaza Ballroom A/B

11:15 AM – 12:30 PM

The Graduate School Experience: What to Expect • Seaport Boston Hotel, Plaza Ballroom C

12:30 – 2:00 PM

Networking 101 • Seaport Boston Hotel, Plaza Ballroom A/B
Sponsored by the ACS Younger Chemists Committee

2:00 – 5:00 PM

Graduate School Fair • Seaport World Trade Center, HarborView

5:00 – 7:00 PM

Science Communication: Speaking to the Public • Harpoon Brewery and Beer Hall, 306 Northern Ave
Cosponsored by the ACS on Campus

MONDAY, AUGUST 20, 2018

8:30 – 10:30 AM

Student Hospitality Center • Seaport World Trade Center, Cityview Ballroom 1

9:00 – 10:30 AM

It is Easy Being Green! • Seaport World Trade Center, Waterfront Ballroom 2
Cosponsored by the ACS Green Chemistry Institute

10:30 – 11:55 AM

The Boston Tea Party • Seaport World Trade Center, Cityview Ballroom 2

12:00 – 1:30 PM

Eminent Scientist Lecture and Luncheon • Seaport World Trade Center, Cityview Ballroom 1/2
The Road Less Traveled: Exploring Career Possibilities in Chemistry
JoAnne Stubbe, Novartis Professor Emeritus, Massachusetts Institute of Technology
Cosponsored by the ACS Division on Professional Relations

2:00 – 4:00 PM

Undergraduate Research Poster Session • Boston Convention & Exhibition Center, Exhibit Hall B2/C
Cosponsored by the ACS Divisions of Agricultural & Food Chemistry, Analytical, Biological, Environmental, Inorganic, Medicinal, Physical, Polymer Chemistry, and Geochemistry, and the Society Committee on Education

5:15 – 6:30 PM

The Fred Kavli Foundation Innovation in Chemistry Lecture • Boston Convention & Exhibition Center, Ballroom West

8:00 – 10:00 PM

Sci-Mix/Successful Student Chapters Poster Session • Boston Convention & Exhibition Center, Exhibit Hall B2/C

All events are sponsored or cosponsored by the Society Committee on Education Undergraduate Programming Advisory Board.

Undergraduate Programming Advisory Board Chair: Michael R. Adams | Xavier University of Louisiana

Program Chair: Amy Keirstead | University of New England (ME)

acs.org/studentmeetinginfo

ACS CAREER NAVIGATOR

ACS Career Navigator is your home for career services, leadership development, and professional education resources. We offer comprehensive and easily identified tools to help you achieve your career goals by landing a new job, finding a new career path, comparing your salary, and viewing current trends in the chemistry enterprise to make more informed decisions.

Opportunities for career development abound at the ACS National Meeting in Boston. Take advantage of the resources and tools the ACS Career Navigator offers to help you succeed in the global scientific enterprise. Are you ready to get started? Refresh your skills and branch into new areas of emerging science and advanced applications with an ACS Professional Education Short Course. Take an ACS Leadership Development System® course to gain skills that are immediately applied on the job or in school. Register for an ACS Career Pathways™ workshop to help you find a career pathway and a job in the chemical sciences that's right for you. While you're in the expo hall, make sure to head to the ACS Career Fair to network with recruiters. Learn more on page 27. Whatever your career goals, the ACS Career Navigator is here to help you achieve and exceed them.

ACS CAREER PATHWAYS™ WORKSHOPS

Our career-related workshops on varying topics will help you with everything from improving your résumé to acing an interview. Workshop times are subject to change. Please check the Online Planner or Mobile App for up-to-date schedule and location information.

ACS PROFESSIONAL EDUCATION SHORT COURSES

Our training courses are specifically designed to improve the skills and marketability of chemical scientists and technicians and are offered in conjunction with the National Meeting. ACS Member, early registration, and group discount rates are available. If you did not register for a course when you registered for the meeting, you can do so, depending on space availability, in the Attendee Registration Office, in BCEC Hall A. Visit the meeting website, www.acs.org/nationalmeeting for more information on these courses.

For more information on ACS Short Courses, visit www.proed.acs.org/boston.

If you have questions, call 202-872-4508, fax 202-872-6336, or email proed@acs.org.

2018 ACS LEADERSHIP DEVELOPMENT SYSTEM COURSE OFFERINGS

Whether you are a manager, experienced professional, or new member of the workforce, we invite you to attend an ACS Leadership Development System® course held at the ACS National Meeting. Each of the four-hour facilitated courses require a deposit of \$50 that will be refunded after attendance for ACS Members and a \$300 fee each for nonmembers. If you did not register for a course when you registered for the meeting, you can do so, depending on space availability, at Attendee Registration, BCEC Hall A. Visit the meeting website, www.acs.org/nationalmeeting for more information on these courses.

NANOSCIENCE, NANOTECHNOLOGY & BEYOND

KAVLI LECTURE SERIES

MODERATED BY DR. PETER K. DORHOUT, ACS PRESIDENT

Sponsored by The Kavli Foundation

KAVLI EMERGING LEADER IN CHEMISTRY LECTURE



Jill Millstone — University of Pittsburgh

Metal-Ligand Chemistry in Nanoparticle Synthesis and Performance

Monday, August 20 | 4:00 PM

Boston Convention & Exhibition Center — Ballroom West

KAVLI INNOVATIONS IN CHEMISTRY LECTURE



Harry Atwater — California Institute of Technology

Light as Fuel

Monday, August 20 | 5:15 PM

Boston Convention & Exhibition Center — Ballroom West

BRAIN INITIATIVE SYMPOSIA

NANOSCIENCE & NANOTECHNOLOGY IN NEUROSCIENCE & THE BRAIN INITIATIVE

Tuesday, August 21 | 9:00 AM

Organizer & Presider: Anne Andrews

THE ROLE OF THE CHEMICAL SCIENCES IN BRAIN RESEARCH & THE BRAIN INITIATIVE

Tuesday, August 21 | 1:30 PM

Organizer: Jonathan Sweedler

The Kavli Foundation Lecture Series promotes groundbreaking discovery and public understanding of the world's mounting challenges and how chemistry can provide solutions. The American Chemical Society gratefully acknowledges The Kavli Foundation's generous support for The Fred Kavli Innovations in Chemistry Lecture and The Kavli Foundation Emerging Leader in Chemistry Lecture.

Exposition

Meet, network, learn, and conduct business with over 250 companies and organizations showcasing the most state-of-the-art chemical product and services. Exposition admission is complimentary for all National Meeting registrants. You are required to wear your badge. Individuals who want to visit the exhibits without registering for the technical component of the National Meeting can obtain an expo-only badge for \$10. Purchase your ticket at Attendee Registration, BCEC North Lobby. Registration can be handled online, by mail, or in person.

ACS Career Fair

Visit the ACS Career Fair, where you can network with recruiters from top employers. As an ACS Member, you can create an online profile and upload your resumes to our database, so recruiters can schedule in-person interviews with you. You can also take advantage of ACS Career Consultants for personalized career advice, including resume and LinkedIn reviews, mock interviews, and consultations with immigration attorneys. You can even get your professional headshot taken.

Exhibitor Workshops

Learn from industry experts about emerging trends, state of the industry issues, and approaches to solve your most pressing challenges. Workshops will be conducted in two expo theaters during posted times. Check the Mobile App for the most up-to-date schedule.

Recharge & Social Media Lounge

NEW! Relax, recharge, and get social in our new lounge. While you're there, give your devices a boost too by taking advantage of one of the many charging amenities. Take selfies and watch the meeting happenings scroll by on social media on our monitors.

Special Events in the Expo Hall

Welcome Reception

Sunday, August 19,
5:30 PM–7:30 PM, Hall A, BCEC
Visit with exhibitors and meet new friends at the kick-off event of the Meeting!

Poster Sessions

Engage in illuminating conversation with poster presenters at the following divisional poster sessions:

Small Chemical Business and COLL
Sunday, August 19,
5:30 PM–7:30 PM

ENFL
Monday, August 20,
3:00 PM–5:00 PM

Caffeinate & Communicate

Mingle with fellow attendees and exhibitors while grabbing a cup o' joe or cold beverage during these afternoon breaks.

- Monday, August 20,
1:00 PM–3:00 PM
- Tuesday, August 21,
3:00 PM–5:00 PM

Meet the ACS President-Elect Candidates

Monday, 1:00 PM–4:00 PM

Featured Areas

ACS BOOTH #1418

Visit the ACS booth, where various staff units will present the plethora of benefits, services, products, and merchandise offered by ACS.

INNOVATION FAIR, BOOTHS #2608–2713

Visit the most innovative start-up companies in the chemical industry! Be the first to meet the industry stars of tomorrow.

SMALL CHEMICAL BUSINESS ROW, BOOTHS #632–2432

Check out what these small but mighty companies are featuring and how they can be an invaluable resource to you.

JOIN THE ACS BOARD OF DIRECTORS REGULAR SESSION

Sunday, August 19, 2018 • Noon - 1:00 p.m.

Boston Convention & Exhibition Center
Ballroom West (Ballroom Level 3)
Doors open at 11:45 a.m.

Sandwiches and soft drinks available while supplies last

FEATURING GUEST SPEAKER:

SIR FRASER STODDART, NORTHWESTERN UNIVERSITY

“Transformative Research: Doing Your Own Thing”



Nobel Laureate Sir Fraser Stoddart, D.Sc. is a Board of Trustees Professor of Chemistry and Director of the Center for the Chemistry of Integrated Systems at Northwestern University. Before moving to Northwestern in 2008, Professor Stoddart was formerly the Director of the California NanoSystems Institute and the Fred Kavli Chair of NanoSystems Sciences at the University of California, Los Angeles.

Throughout his distinguished career, Professor Stoddart has received numerous prestigious awards and honors for his discoveries and innovations. In 2016, he was awarded the Nobel Prize in Chemistry along with Ben Feringa (University of Groningen, the Netherlands) and Jean-Pierre Sauvage (University of Strasbourg, France) for the design and synthesis of molecular machines.

Professor Stoddart is a pioneer in the fields of supramolecular chemistry and molecular nanotechnology, and his work has helped open up a new field of chemistry. His research interests are in chemistry beyond the molecule, which, combined with his interest in templation, has led to the template-directed synthesis, based on molecular recognition and self-assembly processes, of a wide range of mechanically interlocked molecules, bistable variants of which have found their way in the form of switches into molecular electronic devices and drug delivery systems.

The Sunday Times in the U.K. once noted that Stoddart “is to nanotechnology what J.K. Rowling is to children’s literature.” Professor Stoddart is a native of Scotland, and he received his B.Sc., Ph.D., and D.Sc. degrees from Edinburgh University.

Nobel Laureate Sir Fraser Stoddart is serving as Champion for the 50 Forward fundraising campaign in celebration of ACS Project SEED’s 50th Anniversary. He is active in reaching out to new scientists as well as others both inside and outside the scientific community via @sirfrasersays on Twitter.

ACS Board of Directors 2018



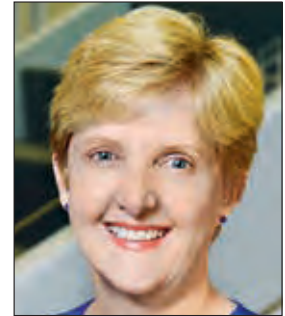
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DISTRICT V
CHAIR



CHRISTINA C. BODUROW
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ALLISON A. CAMPBELL
IMMEDIATE PAST PRESIDENT



BONNIE A. CHARPENTIER
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DIRECTOR-AT-LARGE

Many members participate in meetings concerning the business of the Society, technical divisions, and governance committees in conjunction with the National Meeting. The following pages list the open meetings scheduled for Boston. ACS encourages its members to get active in governance at all levels in order to contribute their vision to the direction of the Society.

You can share ideas and insights into the Society and the chemical profession, network with peers, and catch up with friends through these volunteer connections. With nearly 30 national governance committees and leadership opportunities in technical divisions and local sections to choose from, there are many opportunities for members to become actively involved in ACS at the national level.

If you are an ACS Member interested in volunteering for a governance committee, contact the Office of the Secretary at secretary@acs.org or by telephone at 202-872-4461. Someone will put you in contact with the ACS Committee on Committees to discuss your desire to volunteer for a committee assignment. If you wish to volunteer for a specific technical division or local section, contact the officers listed at www.acs.org to explore your specific interests.

Board & Council Meetings

ACS Board of Directors

The ACS Board of Directors meeting is open to all members who wish to participate.

Sunday, August 19, 12:00 PM–1:00 PM
Boston Convention & Exhibition Center, Ballroom West

Guest Speaker: Sir Fraser Stoddart, Board of Trustees Professor of Chemistry and Head of the Stoddart Mechanostereochemistry Group, Department of Chemistry, Northwestern University

ACS Council

Wednesday, August 22
Breakfast: 7:00 AM
Meeting: 8:00 AM
Hynes Convention Center, Ballroom

Councilors should check in beginning at 7:00 AM and proceed to the breakfast area, keeping in mind that the meeting starts promptly at 8:00 AM. Space will be available for ACS Members and nonmembers to observe the council in action. We hope that many will take advantage of this opportunity to learn firsthand about the society's operation. Alternate councilors and division and local section officers are particularly urged to attend.

Committee Meeting Formats and Structure

ACS governance committees generally operate in one of three formats as described below. These formats can change during the course of a meeting as discussions and deliberations change. It is the responsibility of the Committee Chair and the Staff Liaison to ensure that only the appropriate people are present during a meeting.

Open: May be attended by any ACS Member. At these meetings, members are encouraged to voice concerns, issue compliments, offer suggestions, express interest in, or raise questions about matters over which the committee has purview. The assumption is that participation is welcomed and will be orderly and courteous. Only committee members may vote.

Closed: The Committee Chair must declare any Executive meeting Closed when confidential or sensitive personnel, financial, or legal matters of the Society are discussed. At that point, only officially appointed/elected Committee Members, Associates, Consultants, Staff Liaisons, and the appointed ConC liaison shall remain in the meeting. Others may stay in the meeting at the discretion of the Chair. Once these discussions are completed, the committee should return to the Executive mode.

Executive: Attendance and participation is limited to officially appointed/elected Committee Members, Associates, Advisors, Consultants, Staff Liaisons, and the appointed ConC liaison. Liaisons from other groups and both ex officio and elected Councilors may attend; active participation by these groups is at the invitation of the Chair. Only committee members may vote.

If you cannot attend the particular committee meeting of interest or for further information, contact the officers listed.

Budget & Finance

Joseph A. Heppert, Chair
b_feedback@acs.org

Open Meeting:

Saturday, August 18, 8:00 AM–10:30 AM
Sheraton Boston | Constitution A

Chemical Safety

Ralph Stuart, Chair
safety@acs.org

Open Executive Meeting:

Saturday, August 18, 8:15 AM–9:45 AM
Sheraton Boston
Monday, August 20, 7:00 AM–8:30 AM
Sheraton Boston

Chemistry & Public Affairs

Raymond E. Forslund, Chair
reforslund@me.com

Open Meeting:

Saturday, August 18, 3:00 PM–4:30 PM
Sheraton Boston | Constitution B

Chemists with Disabilities

James Schiller, Chair
james.schiller@merck.com

Combined Open and Executive Meeting:

Sunday, August 19, 8:30 AM–4:30 PM
Sheraton Boston | Commonwealth

Committees

Carolyn Ribes, Chair
cribes@dow.com

Open Meeting:

Monday, August 20, 1:30 PM–2:00 PM
Sheraton Boston | Constitution A

Community Activities

Michael B. McGinnis, Chair
outreach@acs.org

Closed Executive Meeting:

Sunday, August 19, 7:00 AM–12:00 PM
Sheraton Boston | Republic B

CCA/LSAC Joint Open Meeting:

Tuesday, August 21, 2:00 PM–3:30 PM
Sheraton Boston | Commonwealth

Constitution & Bylaws

V. Dean Adams, Chair
bylaws@acs.org

Open Meeting:

Sunday, August 19, 1:30 PM–1:45 PM
Sheraton Boston | Republic A

Executive Meeting:

Sunday, August 19, 10:00–11:30 AM
& 1:45 PM–4:30 PM
Sheraton Boston | Republic A

Corporation Associates

Diane Grob Schmidt, Chair
d_schmidt@acs.org

Open Meeting:

Monday, August 20, 8:00 AM–12:00 PM
Sheraton Boston | Back Bay C

Council Policy

Mary K. Carroll, Vice Chair
cpc@acs.org

Open Executive Meeting:

Tuesday, August 21, 9:30 AM–12:00 PM
Sheraton Boston | Constitution B

Divisional Activities

Rodney M. Bennett, Chair
rodbennett@acs.org

Open Executive Meeting:

Sunday, August 19, 8:00 AM–12:00 PM
Hilton Back Bay | Maverick A/B

Economic & Professional Affairs

Tiffany Hoerter, Chair
thoerter@gmail.com

Executive Meeting:

Saturday, August 18, 8:00 AM–5:30 PM
Sheraton Boston | Independence West

Education

Jennifer Nielson, Chair
jnielson@chem.byu.edu

Executive Meeting:

Friday, August 17, 1:00 PM–5:30 PM
Sheraton Boston | Republic B

Open Meeting:

Monday, August 20, 3:00 PM–4:00 PM
Sheraton Boston | Berkeley A/B

Environmental Improvement

Anthony (Tony) Noce, Chair
cei@acs.org

Breakfast/Open Meeting:

Monday, August 20, 7:45 AM–9:00 AM
Aloft Boston Seaport | Smoot

Ethics

Judith Currano, Chair
currano@pobox.upenn.edu

Open Executive Meeting:

Sunday, August 19, 9:00 AM–4:30 PM
Sheraton Boston | The Fens

International Activities

Jens Breffke, Chair
intlacts@acs.org

Open Meeting:

Saturday, August 18, 1:00 PM–3:00 PM
Sheraton Boston | Republic B

Local Section Activities

Jason Ritchie, Chair
jritchie@olemiss.edu

Open Executive Meeting:

Sunday, August 19, 8:00 AM–12:00 PM
Sheraton Boston | Back Bay B

LSAC/CCA Joint Open Meeting:

Tuesday, August 21, 2:00 PM–3:30 PM
Sheraton Boston | Commonwealth

Governance & Business Meetings

Meetings & Expositions

Kevin J. Edgar, Chair

M&E@acs.org

Open Meeting:

Sunday, August 19, 7:30 AM–10:00 AM
Boston Convention & Exhibition Center
Room 258A

Closed Executive Meeting:

Sunday, August 19, 10:00 AM–12:00 PM
Boston Convention & Exhibition Center
Room 258A

Membership Affairs

Margaret J. Schooler, Chair

Closed Executive Meeting:

Sunday, August 19, 8:00 AM–3:00 PM
Sheraton Boston | Back Bay A

Open Executive Meeting:

Sunday, August 19, 3:00 PM–4:00 PM
Sheraton Boston | Back Bay A

Minority Affairs

Ann Kimble-Hill, Chair

ankimble@iupui.edu

Closed Executive Meeting:

Sunday, August 19, 8:00 AM–12:30 PM
Sheraton Boston | Back Bay C

Open Meeting:

Sunday, August 19, 12:30 PM–2:00 PM
Sheraton Boston | Back Bay C

Nomenclature, Terminology & Symbols

Michael D. Mosher, Chair

michael.mosher@unco.edu

Open Executive Meeting:

Monday, August 20, 10:00 AM–12:30 PM
Sheraton Boston | Hampton A/B

Open Meeting:

Monday, August 20, 1:30 PM–5:00 PM
Sheraton Boston | Hampton A/B

Nominations & Elections

Les W. McQuire, Chair

nomelect@acs.org

Open Executive Meeting:

Monday, August 20, 11:30 AM–12:00 PM
Sheraton Boston | Independence West

Patents & Related Matters

Kirby Drake, Chair

kirby.drake@klemchuk.com

Open Meeting:

Saturday, August 18, 9:00 AM–4:00 PM
Sheraton Boston

Professional Training

Edgar Arriaga, Chair

apt@acs.org

Open Meeting:

Sunday, August 19, 4:00 PM–6:00 PM
Hilton Back Bay | Maverick B

Project SEED

Don Warner, Chair

dwarner@boisestate.edu

Open Meeting:

Sunday, August 19, 9:30 AM–10:30 AM
Sheraton Boston | Public Garden

Closed Executive Meeting:

Saturday, August 18, 10:30 AM–5:00 PM
Sheraton Boston | Public Garden

Public Relations & Communications

Jennifer Maclachlan, Chair

pidgirl@gmail.com

Open Executive Meeting:

Monday, August 20, 8:00 AM–1:00 PM
Sheraton Boston | Back Bay A

Publications

Nicole S. Sampson, Chair

Open Meeting:

Friday, August 17, 4:30 PM–5:00 PM
Sheraton Boston | Hampton A/B

Executive Meeting:

Friday, August 17, 12:00 PM–5:00 PM
(Closed until 4:30 PM)
Sheraton Boston | Hampton A/B

Science

Mark C. Cesa, Chair

markcesa@comcast.net

Open Meeting:

Saturday, August 18, 8:30 AM–4:30 PM
Sheraton Boston | Back Bay A

Senior Chemists

Thomas R. Beattie, Chair;

seniorchemists@acs.org

Open Executive Meeting:

Monday, August 20, 8:00 AM–1:00 PM
Sheraton Boston | Riverway

Technician Affairs

Aime'e Tomlinson, Chair

s_ainsworth@acs.org

Closed Executive Meeting:

Sunday, August 19, 8:00 AM–2:00 PM
Sheraton Boston | Constitution B

Open Executive Meeting:

Sunday, August 19, 2:00 PM–2:30 PM
Sheraton Boston | Constitution B

Women Chemists

Kimberly A. Woznick, Chair

wcc@acs.org

Closed Executive Meeting:

Saturday, August 18, 8:00 AM–5:00 PM
Sheraton Boston | Back Bay C

Younger Chemists

Natalie A. LaFranzo, Chair

nlafranzo@gmail.com

Closed Meeting:

Saturday, August 18, 8:00 AM–3:00 PM
Sheraton Boston | Back Bay D

Open Meeting:

Sunday, August 19, 8:00 AM–12:00 PM
Sheraton Boston | Back Bay D

Council Policy Committee

The Council Policy Committee will open the floor during its meeting at 11:30 AM on Tuesday, August 21, to councilors who would like to raise issues of concern that affect them and/or their local sections or divisions. For further information, contact the committee Vice Chair, Mary Carroll, at cpc@acs.org.

Councilor Caucus Meetings

District I Councilor Caucus

Tuesday, August 21, 5:30 PM–6:30 PM
Sheraton Boston | Commonwealth

District II Councilor Caucus

Sunday, August 19, 6:00 PM–7:00 PM
Sheraton Boston | Hampton A/B

District III Councilor Caucus

Sunday, August 19, 6:00 PM–7:00 PM
Sheraton Boston | Berkeley A/B

District IV Councilor Caucus

Sunday, August 19, 6:00 PM–7:00 PM
Sheraton Boston | Riverway

District V Councilor Caucus

Sunday, August 19, 6:00 PM–7:00 PM
Sheraton Boston | The Fens

District VI Councilor Caucus

Sunday, August 19, 6:00 PM–7:00 PM
Sheraton Boston | Public Garden

Division Officers/Councilors Caucus

Tuesday, August 21, 4:00 PM–6:00 PM
Sheraton Boston | Riverway



Renew and Save

ACS is offering an exclusive discount to current members who renew their membership during the ACS National Meeting in Boston.

Visit the Member Lounge (North Lobby of the BCEC) Saturday, August 18–Thursday, August 23 during Registration Hours and receive **20% OFF*** your membership renewal. Upgrade to a multi-year membership and take advantage of even greater savings.

*Offer valid On-Site at the National Meeting only



Division Meetings & Social Events

Division of Agriculture & Food (AGFD)

AGFD Special Topics	Sunday, August 19	12:00 PM–1:00 PM	Boston Convention & Exhibition Center	Room 109A
Reception at AGFD Poster Session	Sunday, August 19	5:00 PM–7:00 PM	Boston Convention & Exhibition Center	Exhibit Hall B2/C
AGFD Future Programs	Monday, August 20	12:00 PM–1:00 PM	Boston Convention & Exhibition Center	Room 107B
AGFD Executive Committee Meeting	Monday, August 20	5:00 PM–8:00 PM	Boston Convention & Exhibition Center	Room 107C
AGFD Business Meeting	Tuesday, August 21	12:15 PM–1:00 PM	Boston Convention & Exhibition Center	Room 258C

Division of Agrochemicals (AGRO)

AGRO Morning Coffee Break 1	Sunday, August 19	10:00 AM–10:30 AM	Boston Convention & Exhibition Center	Ballroom East
AGRO Afternoon Coffee Break 1	Sunday, August 19	2:45 PM–3:15 PM	Boston Convention & Exhibition Center	Ballroom East
AGRO Business Meeting	Sunday, August 19	5:00 PM–9:00 PM	Boston Convention & Exhibition Center	Room 207
AGRO Morning Coffee Break 2	Monday, August 20	9:45 AM–10:15 AM	Boston Convention & Exhibition Center	Ballroom East
AGRO Graduate Student Lunch	Monday, August 20	11:45 AM–1:00 PM	Boston Convention & Exhibition Center	Room 258C
AGRO Afternoon Coffee Break 2	Monday, August 20	2:45 PM–3:15 PM	Boston Convention & Exhibition Center	Ballroom East
AGRO Morning Coffee Break 3	Tuesday, August 21	9:45 AM–10:15 AM	Boston Convention & Exhibition Center	Ballroom East
AGRO Afternoon Coffee Break 3	Tuesday, August 21	3:00 PM–3:30 PM	Boston Convention & Exhibition Center	Ballroom East
AGRO VIP (Vendor Interfaces Program) Vendor Face-to-Face Meet & Greet	Tuesday, August 21	5:00 PM–6:00 PM	Boston Convention & Exhibition Center	Room 258C
AGRO Blues-N-Brews	Tuesday, August 21	6:00 PM–7:30 PM	Boston Convention & Exhibition Center	Room 258C
AGRO Morning Coffee Break 4	Wednesday, August 22	9:45 AM–10:15 AM	Boston Convention & Exhibition Center	Ballroom East
AGRO Poster Session	Wednesday, August 22	11:30 AM–2:00 PM	Boston Convention & Exhibition Center	Ballroom Pre-Function
AGRO Afternoon Coffee Break 4	Wednesday, August 22	3:45 PM–4:15 PM	Boston Convention & Exhibition Center	Ballroom East
AGRO Award Social	Wednesday, August 22	6:00 PM–8:00 PM	Boston Convention & Exhibition Center	Room 258C
AGRO Morning Coffee Break 5	Thursday, August 23	10:00 AM–10:30 AM	Boston Convention & Exhibition Center	Ballroom East
Your AGRO Mixer	Thursday, August 23	12:15 PM–1:00 PM	Boston Convention & Exhibition Center	Ballroom East

Division Meetings & Social Events

Division of Analytical Chemistry (ANYL)

ANYL Executive Committee Meeting	Sunday, August 19	7:00 PM–9:00 PM	Boston Convention & Exhibition Center	Room 103
ANYL Poster Session	Sunday, August 19	7:00 PM–9:00 PM	Boston Convention & Exhibition Center	Halls B2/C
Reception for Sterling Hendricks Award Symposium	Tuesday, August 21	12:00 PM–1:00 PM	Boston Convention & Exhibition Center	Room 107B
Chemical Forensics Workshop A	Tuesday, August 21	1:00 PM–6:00 PM	Boston Convention & Exhibition Center	Room 210A
Chemical Forensics Workshop B	Tuesday, August 21	1:00 PM–6:00 PM	Boston Convention & Exhibition Center	Room 210A
Analytical Division Reception	Tuesday, August 21	5:00 PM–7:00 PM	Westin Boston Waterfront	Marina Ballroom IV
Chemical Forensics Workshop	Wednesday, August 22	8:00 AM–6:00 PM	Boston Convention & Exhibition Center	Room 210A

Division of Biological Chemistry (BIOL)

Hammes Award Reception	Sunday, August 19	5:30 PM–6:30 PM	Boston Convention & Exhibition Center	Room 153B
BIOL Poster Session	Sunday, August 19	6:30 PM–8:30 PM	Boston Convention & Exhibition Center	Halls B2/C
BIOL Poster Session	Tuesday, August 21	6:30 PM–8:30 PM	Boston Convention & Exhibition Center	Halls B2/C

Division of Carbohydrate Chemistry (CARB)

CARB Centennial Planning Meeting	Monday, August 20	7:00 PM–11:00 PM	Aloft Boston Seaport	Summer 1
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Division of Chemical Education (CHED)

CHED Program Committee Meeting	Saturday, August 18	10:30 AM–12:00 PM	Seaport World Trade Center	Cambridge 2
CHED Executive Committee Meeting	Saturday, August 18	1:00 PM–5:30 PM	Seaport World Trade Center	Waterfront Ballroom 3
CHED/SOCED Task Force on Chemistry Teacher Programming	Saturday, August 18	3:30 PM–5:00 PM	Boston Convention & Exhibition Center	Room 104C
CHED Luncheon	Sunday, August 19	12:00 PM–1:00 PM	Seaport World Trade Center	Waterfront Ballroom 1/2
CHED Long Range Planning Committee Meeting	Sunday, August 19	2:30 PM–4:30 PM	Seaport World Trade Center	Dartmouth
CHED Safety Committee Meeting	Sunday, August 19	4:00 PM–5:30 PM	Seaport World Trade Center	Beacon Hill 2
CHED Social Reception	Sunday, August 19	5:30 PM–7:00 PM	Seaport World Trade Center	Cityview Ballroom 2
CHED Poster Session	Sunday, August 19	7:00 PM–9:00 PM	Boston Convention & Exhibition Center	Halls B2/C

Division Meetings & Social Events

Division of Chemical Health & Safety (CHAS)

Laboratory Safety – Beyond the Fundamentals	Friday, August 17	8:00 AM–5:00 PM	Boston Convention & Exhibition Center	Room 204A
Laboratory Waste Management	Friday, August 17	8:00 AM–5:00 PM	Boston Convention & Exhibition Center	Room 203
Health & Safety Training for Cannabis Businesses	Saturday, August 18	8:00 AM–5:00 PM	Boston Convention & Exhibition Center	Room 204B
How to Be a More Effective Chemical Hygiene Officer	Saturday, August 18	8:00 AM–5:00 PM	Boston Convention & Exhibition Center	Room 204A
Reactive Chemical Management for Laboratories and Pilot Plant	Saturday, August 18	8:00 AM–5:00 PM	Boston Convention & Exhibition Center	Room 203
CHAS Executive Committee Meeting	Monday, August 20	10:00 AM–1:00 PM	Seaport Boston Hotel	Seaport Ballroom B

Division of Chemical Information (CINF)

CINF Awards Committee	Saturday, August 18	12:30 PM–2:30 PM	Westin Boston Waterfront	Adams
CINF Education Committee	Saturday, August 18	12:30 PM–2:30 PM	Westin Boston Waterfront	Alcott
CINF Program & Executive Committees	Saturday, August 18	12:30 PM–6:00 PM	Westin Boston Waterfront	Douglass
CINF Welcome Reception & Poster Session	Sunday, August 19	6:30 PM–8:30 PM	Westin Boston Waterfront	Galleria
CINF Division Luncheon	Tuesday, August 21	12:00 PM–1:30 PM	Westin Boston Waterfront	Grand Ballroom A

Division of Chemistry and the Law (CHAL)

CHAL Networking Luncheon	Monday, August 20	12:00 PM–1:30 PM	Westin Boston Waterfront	Webster
CHAL Reception	Monday, August 20	6:00 PM–8:00 PM	Boston Convention & Exhibition Center	Room 258C

Division of Chemical Toxicology (TOXI)

TOXI Executive Committee Meeting	Saturday, August 18	7:00 PM–10:00 PM	Westin Boston Waterfront	Bulfinch
TOXI Posters	Monday, August 20	7:00 PM–9:00 PM	Westin Boston Waterfront	Galleria

Division of Colloid and Surface Chemistry (COLL)

COLL Program and Executive Committee Meeting	Saturday, August 18	4:00 PM–7:00 PM	Boston Convention & Exhibition Center	Room 258B
COLL Open Meeting	Sunday, August 19,	5:30 PM–6:00 PM	Boston Convention & Exhibition Center	Exhibit Hall A
COLL Poster Session	Sunday, August 19	5:30 PM–7:30 PM	Boston Convention & Exhibition Center	Exhibit Hall A
COLL Luncheon	Tuesday, August 21	12:15 PM–1:45 PM	Boston Convention & Exhibition Center	Room 210C

Division Meetings & Social Events

Division of Computers in Chemistry (COMP)

COMP Programming & Executive Committee Meeting	Saturday, August 18	3:00 PM–6:00 PM	Westin Boston Waterfront	Faneuil
COMP Poster Session	Tuesday, August 21	6:00 PM–8:00 PM	Boston Convention & Exhibition Center	Exhibit Hall B1

Division of Engineering & Fuel (ENFL)

ENFL Program Meeting	Sunday, August 19	12:30 PM–4:00 PM	Renaissance Boston Waterfront	Brewster
ENFL Executive Committee Meeting	Sunday, August 19	4:00 PM–7:30 PM	Renaissance Boston Waterfront	Brewster
ENFL Business Meeting & Social	Monday, August 20	11:30 AM–1:00 PM	Boston Convention & Exhibition Center	Room 052B
ENFL Division Dinner	Tuesday, August 21	6:00 PM–10:00 PM	Off Site	Tuscan Kitchen

Division of Environmental Chemistry (ENVR)

ENVR Industry Advisory Board Meeting	Sunday, August 19	1:00 PM–2:00 PM	Boston Convention & Exhibition Center	Room 109B
ENVR Program Planning Meeting	Sunday, August 19	2:00 PM–3:00 PM	Boston Convention & Exhibition Center	Room 109B
ENVR Long Range Planning Meeting	Sunday, August 19	3:00 PM–5:00 PM	Boston Convention & Exhibition Center	Room 109B
ENVR Members Business Meeting	Sunday, August 19	7:00 PM–7:30 PM	Boston Convention & Exhibition Center	Room 109B
ENVR Executive Committee Meeting	Sunday, August 19	7:30 PM–10:00 PM	Boston Convention & Exhibition Center	Room 109B
ENVR Symposium Organizers' Lunch	Monday, August 20	11:45 AM–1:00 PM	Boston Convention & Exhibition Center	Room 109B
ENVR Division Reception	Tuesday, August 21	6:00 PM–8:00 PM	Tico Boston	222 Berkeley Street

Division of Geochemistry (GEOC)

GEOC Business Meeting	Sunday, August 19	6:00 PM–8:00 PM	Boston Convention & Exhibition Center	Room 257A
GEOC Poster Session	Sunday, August 19	6:00 PM–8:00 PM	Boston Convention & Exhibition Center	Halls B2/C

Division of History of Chemistry (HIST)

HIST Executive Committee Meeting	Sunday, August 19	5:30 PM–7:30 PM	Seaport Boston Hotel	Seaport Ballroom B
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Division Meetings & Social Events

Division of Inorganic Chemistry (INOR)

INOR Poster Session	Sunday, August 19	5:30 PM–7:30 PM	Boston Convention & Exhibition Center	Halls B2/C
INOR Poster Session	Tuesday, August 21	5:30 PM–7:30 PM	Boston Convention & Exhibition Center	Halls B2/C
INOR Poster Session	Wednesday, August 22	5:30 PM–7:30 PM	Boston Convention & Exhibition Center	Halls B2/C

Division of Medicinal Chemistry (MEDI)

MEDI Executive Committee Meeting	Sunday, August 19	8:30 AM–1:00 PM	Boston Convention & Exhibition Center	Room 257B
MEDI Business Meeting	Sunday, August 19	5:30 PM–6:30 PM	Boston Convention & Exhibition Center	Room 257B
MEDI General Posters	Sunday, August 19	7:00 PM–9:00 PM	Boston Convention & Exhibition Center	Exhibit Hall B1
MEDI Long Range Planning Committee Meeting	Monday, August 20	5:30 PM–10:00 PM	Boston Convention & Exhibition Center	Room 258A
MEDI and ORGN General Posters Social	Wednesday, August 22	7:00 PM–11:00 PM	Westin Boston Waterfront	Galleria

Division of Nuclear Chemistry Technology (NUCL)

NUCL Executive Business Meeting	Sunday, August 19	5:30 PM–6:30 PM	Seaport World Trade Center	Dartmouth
NUCL Business Meeting	Tuesday, August 21	5:30 PM–6:30 PM	Seaport Boston Hotel	Flagship A

Division of Organic Chemistry (ORGN)

ORGN Executive Committee Meeting	Sunday, August 19	1:00 PM–6:00 PM	Boston Convention & Exhibition Center	Room 258C
ORGN Poster Session	Sunday, August 19	5:30 PM–7:30 PM	Boston Convention & Exhibition Center	Halls B2/C
ORGN Poster Session	Tuesday, August 21	5:30 PM–7:30 PM	Boston Convention & Exhibition Center	Halls B2/C
ORGN/MEDI Poster Session	Wednesday, August 22	7:00 PM–11:00 PM	Westin Boston Waterfront	Galleria

Division of Physical Chemistry (PHYS)

PHYS Executive Committee Meeting	Sunday, August 19	4:30 PM–7:15 PM	Boston Convention & Exhibition Center	Room 258A
PHYS Poster Session	Wednesday, August 22	6:00 PM–8:00 PM	Boston Convention & Exhibition Center	Halls B2/C

Division Meetings & Social Events

Division of Polymeric Materials: Science and Engineering (PMSE)

PMSE Officers Meeting	Sunday, August 19	3:00 PM–4:00 PM	Westin Boston Waterfront	Harbor Ballroom I
PMSE Executive Committee Meeting	Sunday, August 19	4:30 PM–7:30 PM	Westin Boston Waterfront	Harbor Ballroom I
PMSE Business Meeting & PMSE/POLY Coordination Meeting	Monday, August 20	4:00 PM–5:00 PM	Westin Boston Waterfront	Commonwealth A
Joint PMSE/POLY Poster Session	Tuesday, August 21	6:00 PM–8:00 PM	Boston Convention & Exhibition Center	Halls B2/C

Division of Polymer Chemistry (POLY)

POLY Annual Business Meeting	Sunday, August 19	12:00 PM–2:00 PM	Westin Boston Waterfront	Harbor Ballroom I
POLY International Committee	Sunday, August 19	2:00 PM–3:00 PM	Westin Boston Waterfront	Marina Ballroom IV
POLY Workshop Committee	Sunday, August 19	3:00 PM–4:00 PM	Westin Boston Waterfront	Marina Ballroom IV
Strategic and Long Range Planning (POLY ExCom)	Sunday, August 19	4:00 PM–5:30 PM	Westin Boston Waterfront	Marina Ballroom IV
Executive and Financial Planning (POLY ExCom)	Monday, August 20	12:00 PM–1:00 PM	Westin Boston Waterfront	Marina Ballroom IV
POLY Industrial Advisory Board	Tuesday, August 21	8:00 AM–10:00 AM	Westin Boston Waterfront	Marina Ballroom IV
POLYEd & IPEC Meeting	Tuesday, August 21	9:00 AM–12:00 PM	Westin Boston Waterfront	Marina Ballroom III
POLY Programming Meeting & Social	Tuesday, August 21	12:00 PM–2:00 PM	Westin Boston Waterfront	Harbor Ballroom I
POLY Membership Committee	Tuesday, August 21	2:00 PM–3:00 PM	Westin Boston Waterfront	Marina Ballroom IV
POLY/PMSE Plenary Symposium & Awards Reception	Wednesday, August 22	5:30 PM–8:00 PM	Westin Boston Waterfront	Grand Ballroom A

Division of Professional Relations (PROF)

PROF Executive Committee and Open Meeting	Tuesday, August 21	3:00 PM–5:00 PM	Sheraton Boston Hotel	Back Bay C
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Division of Small Chemical Businesses (SCHB)

SCHB Executive Committee Meeting	Saturday, August 18	5:00 PM–9:00 PM	Boston Convention & Exhibition Center	Room 104A
SCHB Coffee & Continental Breakfast	Sunday, August 19	8:00 AM–11:00 AM	Aloft Boston Seaport	Mann 3
SCHB Afternoon Break	Sunday, August 19	1:00 PM–3:30 PM	Aloft Boston Seaport	Mann 3
SCHB Coffee Break	Monday, August 20	8:00 AM–10:30 AM	Aloft Boston Seaport	Mann 3
SCHB Coffee Break	Tuesday, August 21	8:00 AM–11:00 AM	Aloft Boston Seaport	Mann 3



ACS Awards
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Congratulations to the **2018 Heroes of Chemistry Award Recipients**



AstraZeneca for TAGRISSO™ (osimertinib), a novel, targeted treatment for patients with EGFR-mutated non-small cell lung cancer. Osimertinib is approved in more than 75 countries.



DuPont for Solamet® PV17x, a metallization paste that pioneered the use of lead tellurite chemistry, a game changer in the solar energy industry.



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Seattle Genetics for ADCETRIS® (brentuximab vedotin), which uses the company's industry-leading antibody-drug conjugate (ADC) technology and is currently approved for the treatment of multiple CD30-expressing lymphomas.

We invite you to apply for the 2019 Heroes of Chemistry Awards.

Nominations are open from December 2018 through March 1, 2019.

Visit www.acs.org/heroes or email chemhero@acs.org for more information.

The Heroes of Chemistry is an annual award program sponsored by ACS recognizing scientists whose innovative work in chemistry and chemical engineering led to successful commercial products that benefit the world.

Ticketed Social & Special Events

August 19, 2018

12:00 PM–1:00 PM	Chemistry Educators Luncheon	Seaport World Trade Center	Waterfront Ballroom 1/2
4:00 PM–5:30 PM	Networking Globally Reception	Sheraton Boston Hotel	Independence East
5:30 PM–7:30 PM	IAC International Welcome Reception	Sheraton Boston Hotel	Back Bay C/D
6:30 PM–7:30 PM	Heroes of Chemistry Reception	Westin Copley Place, Boston	America Center
7:30 PM–10:00 PM	Heroes of Chemistry Dinner and Ceremony	Westin Copley Place, Boston	America North

August 20, 2018

6:45 AM–9:00 AM	YCC/MIP Guided 5K Run Honoring Christine Lopes	Boston Convention & Exhibition Center	North Lobby Entrance
7:30 AM–9:00 AM	Women in the Chemical Enterprise Breakfast	Sheraton Boston Hotel	Constitution A
9:30 AM–11:30 AM	Women Chemists of Color Networking Event	Sheraton Boston Hotel	Commonwealth
11:30 AM–1:30 PM	CMA Luncheon	Sheraton Boston Hotel	Constitution B
12:00 PM–1:30 PM	National Science Foundation's Conversations & Luncheon	Westin Boston Waterfront	Galleria
12:00 PM–1:30 PM	CHAL Networking Lunch	Westin Boston Waterfront	Webster
12:00 PM–1:30 PM	Eminent Scientist Lecture and Luncheon	Seaport World Trade Center	Cityview Ballroom 1/2
6:30 PM–9:30 PM	Chinese-American Chemical Society Dinner Banquet	Hei La Moon Restaurant	88 Beach Street

August 21, 2018

7:30 AM–9:30 AM	Senior Chemists Breakfast	Sheraton Boston Hotel	Republic A/B
7:30 AM–9:30 AM	University of Minnesota Alumni & Friends Breakfast	Seaport Boston Hotel	Lighthouse II
12:00 PM–1:30 PM	CINF Division Luncheon	Westin Boston Waterfront	Grand Ballroom A
12:00 PM–1:30 PM	WCC Luncheon	Sheraton Boston Hotel	Republic A/B
12:15 PM–1:45 PM	COLL Luncheon	Boston Convention & Exhibition Center	Room 210C
5:00 PM–7:00 PM	Analytical Division Reception	Westin Boston Waterfront	Marina Ballroom IV
6:00 PM–8:00 PM	ENVR Division Reception	Tico Boston	202 Berkeley Street
6:00 PM–10:00 PM	ENFL Division Dinner	Tuscan Kitchen	64 Seaport Boulevard
7:00 PM–9:00 PM	ACS NASA Space Symposium Reception	Westin Boston Waterfront	Harbor Ballroom I

Acknowledgements & Appreciation

ACS Divisions and Committees are grateful for the financial donations and other contributions received throughout the year and specifically toward the National Meeting. Our accomplishments are due in large part to this support. **All of us at ACS acknowledge our appreciation to the many government agencies, educational institutions, organizations, and companies listed on the next page, as well as the others omitted from this list because of printing deadlines.**

We Thank Our Volunteers for Their Dedication and Hard Work

ACS Volunteers contribute thousands of hours of service to create and implement programs that promote our science, benefit our members, and contribute to the development of our communities. Thanks to your contributions, the Society provides its over 150,000 members with:

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ACS salutes the outstanding volunteer efforts that have contributed to the success of this year's national and regional meetings, including division chairs, national meeting program officers, regional meeting organizers and program chairs, symposium organizers, session and award presiders, short course and workshop instructors, career counselors, and all members of the Society's governance. To get involved, go to www.acs.org.

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Japanese Society for Food Factors

Division of Agrochemicals

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SQA (Society of Quality Assurance)

Division of Chemical Education

ACS DivCHED Committee on
Chemistry Education Research

ACS Northeastern Local Section

GCI

German Chemical Society

I&EC Green Chemistry

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Chemical Structure Association Trust
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Standards (CPCDS)

Division of Computers in Chemistry

BIOVIA

Division of Environmental Chemistry

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SETAC North America

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ACS Biomacromolecules

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ACS Macro Letters

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Join us at the ACS Booth Theater

axial.acs.org/boston-2018

**Monday, August 20th
9:00 – 9:30 AM**

Learn more about one of the newest journals in the ACS Publications family in a discussion with managing editors and video chat with Editor-in-Chief Patrick Sexton

**ACS
Pharmacology
& Translational Science**

**Tuesday, August 21st
12:30 – 1:00 PM**

Celebrate with editors and authors as we kick off the 140th Anniversary of the *Journal of the American Chemical Society*

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The Versatile Use of Flow Technology in the Modern Chemistry. ThalesNano Nanotechnology Inc. Booth 1615. Sunday. Boston Convention & Exhibition Center, Room 155. 2:45 PM to 4:45 PM. An interactive session of presentations and discussions with industry and academic leaders in the field of flow chemistry and its application to pharmaceutical and agro-chemical research and development. Attendees will learn the fundamentals of flow chemistry expressed through presentations on a wide variety of reactions and examples.

Good NMR Spectroscopic Practices & NMR Beyond Proton, Carbon and Nitrogen. Bruker BioSpin. Booth 708. Monday. Boston Convention & Exhibition Center, Room 155. 9:30 AM to 11:45 AM. This will be a two-part workshop. The first part will discuss many procedures that lead to better NMR data; including sample preparation, instrument calibration, and adjustment of acquisition parameters. The second part will discuss how to acquire data from a wide variety of nuclei in the liquid state. Tips on how to prepare the instrument for a never before acquired nucleus will be shown with many examples. For more information and to register: www.bruker.com/events/acs.html.

ChemDraw 18 Featuring Reaxys: What's New? PerkinElmer. Booth 927. Monday. Boston Convention & Exhibition Center, Exhibit Hall A, Expo Theater 1. 1:15 PM to 2:15 PM. This workshop will give a sneak peek into the new features coming up in ChemDraw 18, such as the new Elsevier Reaxys integration with ChemDraw and the ChemACX Explorer add-in, as well as the shared libraries of HELM Monomers. We will also highlight the latest additions to ChemDraw, such as facilitated copy/pasting, IUPAC name-based atom numbering, CAS RN to Structure from ChemACX add-in, and, as always, some tips and tricks to get the most out of organic chemists' favorite software application.

Mobile Mass Spectrometry — Taking the Laboratory to the Field. Advion. Booth 1908. Tuesday. Boston Convention & Exhibition Center, Exhibit Hall A, Expo Theater 1. 9:30 AM to 10:30 AM. When instant mass analysis became paramount to the Sheffield University Plant Production and Protection (P3) team, they took the laboratory directly to the field utilizing the expression Compact Mass Spectrometer from Advion. The system provides direct sample analysis of liquids, solids and powders and provides mass spectral information within seconds. This enabled the Sheffield team to obtain rapid detection of metabolite markers in plant samples within the field environment, rather than waiting days for results from the lab. This workshop features the research led by Professor Mike Burrell and Dr. Heather Walker, highlighting how they turned their SUV into a mobile mass spec unit capable of screening the fields to obtain rapid metabolite analysis of several different varieties of wheat. "The utilization of this equipment is of huge benefit as it allows the knowledge that we have gained in the laboratory to be transferred and monitored quickly and easily in the field," said Dr. Walker. "Using this technology can provide higher detail data on crops in the field than previously possible."

Discussion Panel: Data Needles in the Content Haystack. SpringNature. Booth 615. Tuesday. Boston Convention & Exhibition Center, Exhibit Hall A, Expo Theater 2. 10:45 AM to 11:45 AM. Modern scientific research now gives us more data than ever, but sorting through the information flood also brings unique challenges. Powerful tools optimized for specific subjects can help quickly and easily find data on-demand. This panel explores some new, sophisticated searching tools in nanoscience, material science, and biotechnology.

Near Infrared to THz Spectroscopy for Chemical Analysis. Bruker Optics. Booth 708. Tuesday. Boston Convention & Exhibition Center, Exhibit Hall A, Expo Theater 1. 12:00 PM to 2:15 PM. Identification of unknown chemicals is in high demand in both research and industrial communities. Organic materials exhibit absorption bands in MIR spectral range: 4000-400 cm⁻¹, while inorganic compounds absorb in the FIR: 400-50 cm⁻¹. Novel optical components have been designed and optimized to record spectra from 6500 cm⁻¹ down to 50 cm⁻¹ without needing to change any optical components. This saves an enormous amount of time in acquiring the complete molecular spectral information and eliminates the risk of breaking expensive optics during the exchange. In many cases, the need for conducting Raman analysis can be obviated. The following applications topics will be discussed in detail: Fast identification of organic and inorganic materials, geological samples and minerals, paint identification for forensics and art conservation, additives in polymers, crystallinity and polymorphism and combined MIR-FIR/THz spectral library.

Harnessing the Power of Benchtop NMR in Your Lab. Magritek. Booth 1901. Tuesday. Boston Convention & Exhibition Center, Exhibit Hall A, Expo Theater 2. 12:00 PM to 2:15 PM. • "Implementation of Benchtop NMR into a Manufacturing Environment," Dr. Travis Gregar, PhD, Advanced Research Specialist, 3M Corporate Research and Development • "Sodium NMR experiments on Spinsolve," Guillaume Madelin, PhD, Assistant Professor, New York University • "Use of benchtop NMR to resolve over the counter analgesics: an undergraduate organic chemistry laboratory," Ryan Blough, Immaculata University • "Advances in reaction monitoring with benchtop NMR," Dr. Andrew Coy, Magritek Inc. • TBD: PPG, Andy Surface?

Research in Germany Science Café. Research In Germany. Booth 2025. Tuesday. Boston Convention & Exhibition Center, Exhibit Hall A, Expo Theater 1. 3:45 PM to 4:45 PM. The Research in Germany Science Café will feature highlights of basic chemical research at German universities and non-university research institutes such as Max Planck. You will hear testimonials and explore your avenues to pursue research in one of the world's leading countries for chemistry.

Structure-Based Drug Design. Chemical Computing Group. Booth 1124. Wednesday. Boston Convention & Exhibition Center, Room 155. 3:45 PM to 4:45 PM. The course describes SBDD workflows in drug discovery projects and encompasses a range of topics from pharmacophore query generation to protein-ligand interaction fingerprints. More specifically, the course will cover the application of pharmacophores in the context of protein-ligand docking, scaffold replacement and R-group screening. A method for querying a 3D project database will also be presented along with the generation and analysis of protein-ligand interaction fingerprints (PLIF).

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Technical Program Summary

Presidential Events	PRES				
<i>P. Dorhout, Program Chair</i>					
Boston Convention & Exhibition Center/ Sheraton Boston Hotel	S	M	Tu	W	Th
Moving the Safety Values of the ACS Forward **	D				
Growing with Project SEED: 50 years and 10,000+ Students **		A			
Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers ** NNB		D			
Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in Honor of Barbara Belmont *(PROF)	P				
Nanoscience, Nanotechnology & Beyond Opening Session *(MPPG)	P				
Chemistry as a Second Language: Strategies for Global Scientific Communication *(YCC)	P				
Artificial Intelligence & its Impact on the Chemical Enterprise *(YCC)		A			
Synthetic Biology: The State of the Science *(ENVR)		D			
The Role of the Chemical Sciences in Brain Research & the BRAIN Initiative *(MPPG)			P		

Multidisciplinary Program Planning Group	MPPG				
<i>P. Weiss, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Synthesis & Characterization of Nanomaterials for Sustainable Energy ** NNB	D	D			
Nanoscience, Nanotechnology & Beyond Opening Session ** NNB	P				
Nanostructured Materials for Energy Harvesting & Storage	P				
Spotlight on Nanoscience, Nanotechnology & Beyond in the Journal of the American Chemical Society NNB		A			
2018 C&EN Talented 12		A			
Future of Nanoscience, Nanotechnology & Beyond NNB		P			
The Fred Kavli Innovations in Chemistry Lecture		E			
The Kavli Foundation Emerging Leader in Chemistry Lecture		E			

Multidisciplinary Program Planning Group (continued)	MPPG				
<i>P. Weiss, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Nanoscience & Nanotechnology in Neuroscience & the BRAIN Initiative			A		
ACS Nano Lectureship Award NNB			A		
Nano in Tissue Engineering			A		
Nanophotonics NNB			D	D	
Patterson-Crane Award Symposium			P		
The Role of the Chemical Sciences in Brain Research & the BRAIN Initiative **			P		
New Advances in 3D Nanoprinting NNB					D
Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier *(ANYL)	D	D			
Recent Developments in the Protection of Nanotechnology-Related Intellectual Property *(CHAL)			A		

Division of Agricultural & Food Chemistry	AGFD				
<i>X. Fan, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
MCPD & Glycidyl Fatty Acid Esters	D				
Bioactives & Neurodegenerative Diseases **	D				
Functional Foods **	D				
Health-Promoting Food Ingredients	D				
Chemistry, Flavor & Health Effects of Teas **	E	D	D	A	
Value-Added Derivatives from Agro-Based Raw Materials **	E			D	A
Diet, Health & Gut Microbiome **	E			D	
General Posters	E				
Applied Nanotechnology for Food & Agriculture **		A			
Structure & Assembly of Food Biopolymers **		D	A		
Bioactives & Skin Health **		D			
Get Published: Panel Discussion with JAFC Editors **		P			
Sci-Mix		E			
Young Scientist/JAFC Best Paper Awards **			A		
Sterling Hendricks Memorial Lectureship **			A		
Taste & Aroma Modulators: Chemistry, Biology & Sensory			D	D	
General Papers			P		A

Division of Agricultural & Food Chemistry (continued)	AGFD				
<i>X. Fan, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Food Bioactives, Nanotechnology & Other Delivery Systems ** NNB			P		
AGFD Award Symposium in Honor of Dr. Sevim Erhan **			P		
Food Proteins: Structure, Functionality, Bioactivity & Safety				A	
Chemistry & Health Benefits of Natural Foods & Beverages				P	A
Advances in Methods & Protocols for Food Pathogen & Toxin Detection				P	
CRISPR **					A
Around the World with Pesticide Maximum Residue Levels *(AGRO)	D			P	
Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management *(AGRO)	D			P	
Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production *(CHAS)		A		D	
Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies *(AGRO)		A			
Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles *(AGRO)		D		P	
Uses of Mass Spectrometry in Agricultural Research & Development : New Trends & Best Practices *(AGRO)		P		P	
Undergraduate Research Posters *(CHED)		P			
Agricultural Based Natural Products as Biorational Pesticides *(AGRO)			D	D	
Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in Honor of George P. Lahm *(AGRO)			D	D	
Joint Reviews for New Pesticides: Success Stories, Challenges & Future Prospects *(AGRO)			D		
Chiral Agrochemicals: Analytical Advances & Regulatory Trends *(AGRO)			P	P	
Analytical Topics for Ag Process Chemistry & Formulations Research *(AGRO)				A	
New Analytical Technologies for Pesticide Analysis *(AGRO)				P	
Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer *(AGRO)				P	
Surfactant & Colloid Science as Applied to Agrochemical Formulations *(AGRO)				P	
AGRO-SETAC Joint Symposium: Challenges of Utilizing Higher-Tier Ecotoxicity Data in Risk Assessment & Risk Management of Pesticides *(AGRO)					A

Division of Agricultural & Food Chemistry (continued)	AGFD				
<i>X. Fan, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Legal Aspects of Agriculture, Agrochemicals & Agribusiness *(AGRO)					A
RNAi & Gene Editing: Utilization for Enhanced Crop Production *(AGRO)					A

Division of Agrochemicals	AGRO				
<i>J. Eble, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
How Can Advances in Chemistry Improve Human Health Exposure Assessment? **	A				
Around the World with Pesticide Maximum Residue Levels **	D			P	
Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management **	D			P	
INsecticide TARgets (INSTAR) Summit	D			P	
Environmental Fate, Transport & Modeling of Agriculturally Related Chemicals	D			P	
Innovations in Chemistry Supporting Strategic Human Health Risk Assessments **	P				
Pesticide Spray Drift: Application, Evaluation & Mitigation **		A		P	
Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies **		A			
Reducing Uncertainty in Modeling the Environmental & Human Health Exposure to Agrochemicals **		A			
Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles **		D		P	
Process Research & Development in Crop Protection		D			
Vector-Borne Diseases: Role of Chemistry in Managing Risks to Humans, Domestic Animals, Aquaculture & Wildlife		P	A	P	
Uses of Mass Spectrometry in Agricultural Research & Development : New Trends & Best Practices **		P		P	
Environmental Study Design: Current & Emerging Guidelines to Fulfill Regulatory Needs **		P			
Sci-Mix		E			

*Co-sponsored symposium with primary organizer shown in parenthesis; located with primary organizer.

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CIGE: Chemistry's Impact on the Global Economy

A = AM AE = AM/EVE D = AM/PM DE = AM/PM/EVE E = EVE

P = PM PE = PM/EVE

NNB = Nanoscience, Nanotechnology & Beyond

Division of Agrochemicals (continued)	AGRO				
<i>J. Eble, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks **			A	P	
Agricultural-Based Natural Products as Biorational Pesticides **			D	D	
Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in Honor of George P. Lahm **			D	D	
Joint Reviews for New Pesticides: Success Stories, Challenges & Future Prospects **			D		
Chiral Agrochemicals: Analytical Advances & Regulatory Trends **			P	P	
Analytical Methods & Study Designs in Pollinator Studies			P		
Analytical Topics for Ag Process Chemistry & Formulations Research **				A	
AGRO-SETAC Joint Symposium: Role of Monitoring Data in Advancing Regulatory Risk Assessment **				A	
Atmospheric Fate & Transport of Volatilized Agricultural Emissions **				D	
Protection of Sustainable Agricultural Productivity, Public Health & the Environment: General Session				P	
Environmental Study Design: Current & Emerging Guidelines **				P	
Good Laboratory Practices for the Agrochemical Professional				P	
New Analytical Technologies for Pesticide Analysis **				P	
Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer **				P	
Role of Monitoring Data in Advancing Regulatory Risk Assessment **				P	
Strategies for Radiolabeling Agrochemicals in Regulatory Studies & Advanced Techniques for Characterization **				P	
Surfactant & Colloid Science as Applied to Agrochemical Formulations ** NNB				P	
Designing Better Studies: Issues & Improvements in Pollinator Studies				P	
AGRO-SETAC Joint Symposium: Challenges of Utilizing Higher-Tier Ecotoxicity Data in Risk Assessment & Risk Management of Pesticides **					A
Contract Research, Good Laboratory Practices & Other Challenges for the Agrochemical Professional					A
Legal Aspects of Agriculture, Agrochemicals & Agribusiness **					A
RNAi & Gene Editing: Utilization for Enhanced Crop Production **					A

Division of Agrochemicals (continued)	AGRO				
<i>J. Eble, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency *(ENVR)	D	A		E	
Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management *(AGRO)	D				P
Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation *(ENVR)	D				E
Functional Foods *(AGFD)	D				
Chemistry of Struvite & Slow-Release Fertilizers: From Fundamentals of Crystal Growth to Engineered Nutrient Recovery & Their Release *(ENVR)	P				E
Chemistry, Flavor & Health Effects of Teas *(AGFD)	E	D	D	A	
Diet, Health & Gut Microbiome *(AGFD)	E				D
Applied Nanotechnology for Food & Agriculture *(AGFD)		A			
Environmental Health & Safety of Emerging Chemicals & Technologies *(ENVR)		D			E
Get Published: Panel Discussion with JAFC Editors *(AGFD)		P			
Sterling Hendricks Memorial Lectureship *(AGFD)			A		
Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems *(ENVR)				D	E
Food Bioactives, Nanotechnology & Other Delivery Systems *(AGFD)				P	
AGFD Award Symposium in Honor of Dr. Sevim Erhan *(AGFD)				P	
Drug Discovery: Cheminformatic Approaches *(CINF)					P A
Advances in Quality Assurance & Regulatory Affairs: Impact on the Future of the Food & Drug & Agrochemical Industry *(BMGT)					P
Environmental Obesogens: Exposure Pathways, Mechanism of Action & Trends *(ENVR)					PE

Division of Analytical Chemistry	ANYL				
<i>L. Baker, M. Bush, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Analytical Technology & Application Innovations in Pharma	A				
Technical Developments & Applications of Optical Chemical Imaging ** NNB	D	D	A		
Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier ** NNB	D	D			

Division of Analytical Chemistry (continued)	ANYL				
<i>L. Baker, M. Bush, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Nanoelectroanalytical Chemistry for Biological & Material Sciences NNB	D				
Paper Devices for Bioanalysis	D				
Student-Organized Symposia: Supramolecular Analytical Chemistry ** NNB	D				
Student-Organized Symposia: Preparative Mass Spectrometry: Recent Advances & Applications **	P				
Analytical Division Poster Session NNB	E				
Wearable & Implantable Sensors		D	D	A	
Analysis of Materials for Energy Storage ** NNB		D			
Chemical Forensics		D			
Nanozymes for Bioanalysis NNB		D			
Sci-Mix		E			
Recent Advances in Solid Phase Extraction: Symposium in Honor of Patrick D. McDonald			A		
Nucleic Acid-Based Sensors NNB			D	A	
Light-Nanomaterial Interactions for Ultrasensitive Electrochemical Sensing & Imaging & Materials Chemistry NNB			D		
Structure & Function of 2D Materials ** NNB			D		
Frontiers of Bioanalytical Raman Imaging & Spectroscopy			P	A	
Analytical Division Awards			P		
Solid-Phase Chemoenzymatic Methods for Analysis of Sialylated Glycans & their Intact Glycopeptides **				A	
Student-Organized Symposia: New Paradigms in Nanoscale Electrocatalysis ** NNB				A	
Molecular Interactions of Synthetic Nanoparticles with Membranes ** NNB				D	
Advances in Electrochemistry				P	A
Joint Symposium of the Separation Science Subdivisions				P	
Next-Generation Instrumentations & Measurement in Space Exploration **				P	
Student-Organized Symposia: New Mass Spectrometry Methods for Polymer Analysis ** NNB				P	
Student-Organized Symposia: Probing Biological Systems with Nonlinear Optics **				P	
Opportunities in Forensic Proteomics: Applications, Bioinformatics, Admissibility, Quality Standards					A
Advances in Mass Spectrometry					D

Division of Analytical Chemistry (continued)	ANYL				
<i>L. Baker, M. Bush, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Advances in Spectroscopy NNB					D
Student-Organized Symposia: Enabling Spectroscopies for Nanomaterial Applications: Energy Conversion to Therapeutics ** NNB					D
New Synthetic Tools & Analytical Methods for the Near-IR **					D
Methodologies for Use in Cleaning Validations					P
Advances in Sensors & Biosensors for Environmental Monitoring *(ENVR)	D	A		E	
Environmental Behaviors & Health Effects of Pollutants: A Symposium in Honor of Prof. Guibin Jiang *(ENVR)	D	D		E	
Environmental Nanometrology *(ENVR)	D				
Structures & Functions of Glycans *(CARB)	P	D			
SETAC-ENVR Joint Symposium: Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans *(ENVR)	P				
Pesticide Spray Drift: Application, Evaluation & Mitigation *(AGRO)		A		P	
Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies *(AGRO)		A			
Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles *(AGRO)		D		P	
Environmental Health & Safety of Emerging Chemicals & Technologies *(ENVR)		D		E	
Uses of Mass Spectrometry in Agricultural Research & Development : New Trends & Best Practices *(AGRO)		P		P	
Microplastic Pollution: Sources, Sinks & Solutions *(ENVR)		P			
Undergraduate Research Posters *(CHED)		P			
Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks *(AGRO)			A	P	
Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems *(ENVR)			D	E	
DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis *(COMSCI)			D		
Chiral Agrochemicals: Analytical Advances & Regulatory Trends *(AGRO)			P	P	

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Division of Analytical Chemistry (continued)	ANYL				
<i>L. Baker, M. Bush, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Analytical Topics for Ag Process Chemistry & Formulations Research *(AGRO)				A	
Chemistry in Space: Past, Present & Future *(YCC)				A	
Atmospheric Fate & Transport of Volatilized Agricultural Emissions *(AGRO)				D	
From Lab to Tap: Implications of Scaling Up Nano-Enabled Environmental Technologies *(ENVR)				D	
Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation *(ENFL)				P	A
New Analytical Technologies for Pesticide Analysis *(AGRO)				P	
Wastewater-Based Epidemiology: Opportunities & Challenges *(ENVR)				PE	A
RNAi & Gene Editing: Utilization for Enhanced Crop Production *(AGRO)					A

Division of Biochemical Technology	BIOT				
<i>N. Tugcu, M. Antoniewicz, Program Chairs</i>					
Located with Primary Sponsor	S	M	Tu	W	Th
Undergraduate Research Posters *(CHED)		P			

Division of Biological Chemistry	BIOL				
<i>S. Kelley, P. Bevilacqua, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Early Career Investigators in Biological Chemistry	A			A	
Repligen Award for the Chemistry of Biological Processes	A				
Debunking Myths of the Undruggable & Indistinguishable	P	A			
Chemical Approaches to Interrogate Cell Biology	P				
Gordon Hammes Award Lecture	P				
Current Topics	E		E		
Eli Lilly Award in Biological Chemistry		A			
Graduate Student & Postdoctoral Fellow Symposium		P			D
Precision Genome Engineering		P			
Sci-Mix		E			
Chemical Immunomodulation			A		
Pfizer Award in Enzyme Chemistry			A		
ACS Infectious Diseases Young Investigators Award Symposium			P		
Synthetic Chemical Biology			P		
Mid-Career Investigators in Biological Chemistry					D
Frontiers in Organofluorine Research for Biological Chemistry & Drug Discovery					P

Division of Biological Chemistry (continued)	BIOL				
<i>S. Kelley, P. Bevilacqua, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Use of Computer Simulation to Teach Chemical Kinetics & Enzyme Kinetics in Undergraduate Research & Education *(CHED)	A				
Advances in Sensors & Biosensors for Environmental Monitoring *(ENVR)	D	A		E	
Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier *(ANYL)	D	D			
Structures & Functions of Glycans *(CARB)	P	D			
Diet, Health & Gut Microbiome *(AGFD)	E				D
Environmental Biofilm Engineering: Harnessing the Power of Biofilms for Contaminant Removal & Resource Recovery *(ENVR)		P	A	E	
Tetrahedron Prize *(ORGN)		P			
Undergraduate Research Posters *(CHED)		P			
Projects of NCI Chemical Biology Consortium: A Unique, Collaborative Approach to Cancer Drug Discovery *(MEDI)				A	
Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications *(ENVR)					DE A
CRISPR *(AGFD)					A

Division of Business Development & Management	BMGT				
<i>A. DeMasi, Program Chair</i>					
Aloft Boston Seaport	S	M	Tu	W	Th
Chemical Angel Network: Chemists Investing in Chemical Companies **	P				
Advances in Quality Assurance & Regulatory Affairs: Impact on the Future of the Food & Drug & Agrochemical Industry **					P
Artificial Intelligence & its Impact on the Chemical Enterprise *(YCC)		A			
Francis P. Garvan-John M. Olin Medal Symposium in Honor of Valerie Kuck *(WCC)		P			
Financial & Business Formation Strategies for Start-Ups & Chemical-Related Businesses *(SCHB)			A		

Division of Carbohydrate Chemistry	CARB				
<i>S. Sucheck, Program Chair</i>					
Aloft Boston Seaport	S	M	Tu	W	Th
Excellence in Undergraduate Research in Glycoscience **	A				
Structures & Functions of Glycans **	P	D			
General Posters **	E				
Sci-Mix		E			

Division of Carbohydrate Chemistry (continued)	CARB				
<i>S. Sucheck, Program Chair</i>					
Aloft Boston Seaport	S	M	Tu	W	Th
Glycoprotein & Carbohydrate-Based Drugs for Human Health **			D	A	
Enzymes in Glycoscience **			D		
New Directions in Carbohydrate Synthesis **				D	
Synergistic Approaches to Lignocellulosic Biomass Research *(CELL)	D				
Diet, Health & Gut Microbiome *(AGFD)	E			D	
Rational Design of Multifunctional Renewable-Resourced Materials *(CELL)		D	D		
Tetrahedron Prize *(ORGN)		P			
Solid-Phase Chemoenzymatic Methods for Analysis of Sialylated Glycans & their Intact Glycopeptides *(ANYL)				A	
Functional Materials from Biopolymer Self-Assembly & Self-Organization *(CELL)				D	A

Division of Catalysis Science & Technology	CATL				
<i>F. Tao, K. Ramasamy, Program Chairs</i>					
Renaissance Boston Waterfront Hotel	S	M	Tu	W	Th
Catalytic Insights from In Situ/Operando X-Ray & Neutron Techniques	D	A			
Role of Water & Solvent in Heterogeneous Catalysis	D	A			
Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level	D	D	D	A	
Catalysis for Transformation of Carbon Dioxide or Nitrogen to Chemical & Fuel Feedstock	D	D			
Application of Electron Microscopy to Catalysis Studies	D				
Understanding Catalytic Sites on Amorphous & Disordered Materials	D				
Application of Ambient Pressure XPS to Catalysis Studies		D			
2018 ACS Catalysis Lectureship for the Advancement of Catalytic Science: Symposium in Honor of Nicholas Turner		D			
Heterogeneous Catalyst Development for Biomass Upgrading		P	D		
General Catalysis		P	DE		D
Sci-Mix		E			
Catalytic Activation & Chemical Transformation of Light Alkanes			A		
Fundamental Understanding of Catalysis at Interface through Computational Approach			D	D	A
New Vistas in Heterogeneous Catalysis: Symposium in Honor of Robert Grasselli			D		
Advanced Catalytic Materials with Well-Defined Nanostructures for Energy & Fuel Sustainability			P	D	D

Division of Catalysis Science & Technology (continued)	CATL				
<i>F. Tao, K. Ramasamy, Program Chairs</i>					
Renaissance Boston Waterfront Hotel	S	M	Tu	W	Th
Water (The Greenest Solvent): Catalysis in Aqueous & Bi-Phase Systems				D	A
Hybrid Biological & Chemocatalytic Processes for Biomass Upgrading				D	
Operando Spectroscopy for Catalysis				P	A
Catalysis for Environmental & Energy Applications *(ENVR)	A			AE	
Novel Catalytic Materials *(ENFL)		P	D	D	
Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications *(ENVR)		P	D	E	

Division of Cellulose & Renewable Materials	CELL				
<i>W. Thielemans, Program Chair</i>					
Aloft Boston Seaport	S	M	Tu	W	Th
Synergistic Approaches to Lignocellulosic Biomass Research **	D				
General Posters	E				
Rational Design of Multifunctional Renewable-Resourced Materials ** NNB		D	D		
Sci-Mix		E			
Functional Materials from Biopolymer Self-Assembly & Self-Organization ** NNB				D	A
Catalysis for Environmental & Energy Applications *(ENVR)	A			AE	
Excellence in Undergraduate Research in Glycoscience *(CARB)	A				
Structures & Functions of Glycans *(CARB)	P	D			
Diet, Health & Gut Microbiome *(AGFD)	E			D	
General Posters *(CARB)	E				
Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications *(ENVR)		P	D	E	
Glycoprotein & Carbohydrate-Based Drugs for Human Health *(CARB)				D	A
Enzymes in Glycoscience *(CARB)				D	
New Directions in Carbohydrate Synthesis *(CARB)				D	

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Division of Chemical Education	CHED				
<i>A. Marsh, D. Bromfield-Lee, P. Daubenmire, Program Chairs</i>					
Seaport World Trade Center	S	M	Tu	W	Th
Use of Computer Simulation to Teach Chemical Kinetics & Enzyme Kinetics in Undergraduate Research & Education **	A				
Chemistry Teachers Day Program **	D				
Informal STEM Education: Innovation & Collaboration ** NNB	D				
Undergraduate Research Papers **	P				
General Posters	E				
General Papers		A	A	A	A
Science Diplomacy & Chemistry Education **	D				
Approaches in Using Food & Cooking to Engage Diverse Audiences in Science	D				
From Nano to Macro: How to Let Students Discover the Applications of Materials NNB	P				
Undergraduate Research Posters ** NNB	P				
Successful Student Chapters **	E				
Sci-Mix	E				
Citizens First! Using Real-World Contexts for Engaging Students in Learning Chemistry **			D		
GSSPC: Frontiers in Computational Chemistry: Bridging the Gap Between Theory & Experiment **			D		
Celebrating the Success of an Exchange Program for German & American Chemistry Students **			P		
Facilitating Student Success in General Chemistry I Laboratory				A	
Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond ** NNB				D	
Alternate Assessment Methods				P	
Research in Chemistry Education				P	
Women of Color in the Academy: Empirical Studies & Models of Success *(PROF)	A				
Citizen Science & Chemistry *(ENVR)	A				
How to Get Your 1st Industrial Job *(PROF)	A				
TRiO & Chemistry *(PROF)	P				
Broadening Participation in STEM: Empirical Studies & Models of Success *(PROF)			D		
Chemistry Librarians of the Future *(CINF)			D		
Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in Honor of Aleksandr V. Zhukhovitskiy *(PMSE)				A	

Division of Chemical Health & Safety	CHAS				
<i>D. Decker, J. Pickel, Program Chairs</i>					
Seaport Boston Hotel	S	M	Tu	W	Th
Ask Dr. Safety: Safety Considerations in the Cannabis Industry **	P				
Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production ** NNB		A		D	
CHAS Awards Symposium **		P			
Nanomaterials: Applications, Safety Considerations, & Implications for Human Health & the Environment ** NNB		P			
Sci-Mix		E			
Learning Laboratory Safety through Storytelling **			D		
Moving the Safety Values of the ACS Forward *(PRES)	D				
Innovations in Chemistry Supporting Strategic Human Health Risk Assessments *(AGRO)	P				
Reducing Uncertainty in Modeling the Environmental & Human Health Exposure to Agrochemicals *(AGRO)		A			
Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer *(AGRO)					P

Division of Chemical Information	CINF				
<i>R. Bienstock, Program Chair</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
Chemical Structure Searching for Patent Information **	D				
Cheminformatic Approaches to Enhance Drug Discovery Based on Natural Products	D				
Reporting & Reproducibility of Chemistry Research Data **	D				
CINF Poster Session	E				
Ethics of Data Sharing **		A			
Publishing Chemical Data **		D			
Where are the Standards: Biologics Registration & HELM		P			
Sci-Mix		E			
Chemistry Librarians of the Future **			D		
Skolnik Symposium: De Novo Design			D		
Machine Learning Scoring Functions				A	
Move Away from the Lamppost & Find Druggable Targets				A	
Semantics in Chemistry Vocabulary & Terminology				A	
Drug Discovery: Cheminformatic Approaches				P	A
Reaction Analytics				P	A

Division of Chemical Information (continued)	CINF				
<i>R. Bienstock, Program Chair</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
The More the Merrier: Combine Drugs Together				P	

Division of Chemical Toxicology	TOXI				
<i>T. Spratt, Program Chair</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
Translesion DNA Polymerases NNB	A				
Founders' Award **	P				
Student/Post-Doc		A			
Chemical Toxicology of Nanomaterials		P			
Sci-Mix		E			
Mechanisms of Binding, Transport & Biotransformation of Toxic Metals **			A		
Chemical Research in Toxicology Young Investigator Award			P		
Keynote Lectures			P		
Posters			E		
Nanomaterials in Drug Delivery: Efficacy & Toxicity Considerations ** NNB				A	
Topics in Chemical Toxicology NNB				P	
Innovations in Chemistry Supporting Strategic Human Health Risk Assessments *(AGRO)	P				

Division of Chemistry & the Law	CHAL				
<i>K. Bianco, K. McIntyre, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Strengthening Your Patent Rights in Light of Recent Federal Circuit Court Decisions	P				
Developments in Pharmaceutical Patent Law **		A			
Extensions to Patent Term in the U.S. & Worldwide		P			
Sci-Mix		E			
Recent Developments in the Protection of Nanotechnology-Related Intellectual Property **			A		
Protecting Your Ideas in the Chemical Arts			P		
Non-Traditional Careers in Chemistry **				A	
The Many Faces of CHAL: Where Chemistry Meets the Law				P	
Chemical Structure Searching for Patent Information *(CINF)	D				
Intellectual Property Basics for Chemical Businesses *(SCHB)	P				
Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer *(AGRO)				P	

Division of Colloid & Surface Chemistries	COLL				
<i>R. Nagarajan, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Basic Research in Colloids, Surfactants & Nanomaterials NNB	A	P	A	D	A
Particle Sizing of Nanoparticles: From Regulatory & Metrology Aspects to Application & Analysis NNB	A				
Heating with Colloidal Nanoparticles: Physical Mechanisms & Applications in Life Science NNB	D	A			
Colloidal & Interfacial Science in Separation Processes NNB	D	D			
Understanding Nano-Bio Interactions: Implications for Bio-Imaging, Diagnosis & Treatment NNB	D	D			
Advances in Colloid & Surface Chemistry Enabled by Cryogenic & In Situ Liquid-Cell Electron Microscopy NNB	D				
Nanomaterials NNB	DE	D	A	D	A
Nanomedicines: From Fundamentals to Applications NNB	DE	D	A	D	A
Surface Chemistry NNB	DE			D	A
Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations NNB	P	D	A	D	A
Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues NNB	P	D	A	D	A
Biomaterials & Biointerfaces NNB	E	D	A	D	
Colloid & Surface Chemistry in Industry: Applications & Career Opportunities **	E	D			
Fundamental Research in Colloids, Surfaces & Nanomaterials NNB	E				
Sci-Mix		E			
Toward Atomic Precision in Controlling the Low Dimensional Materials NNB			A	D	A
Langmuir Lectures, NanoLetters Award Lecture, ACS Materials & Interfaces Award Lecture ** NNB				P	
Technical Developments & Applications of Optical Chemical Imaging *(ANYL)	D	D	A		
Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier *(ANYL)	D	D			

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Division of Colloid & Surface Chemistry (continued)	COLL				
<i>R. Nagarajan, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Interfacial Chemistry under Nanoscale Confinement *(GEOC)	D				
Surface, Interface & Coating Materials *(PMSE)		D	D	D	A
Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces *(GEOC)		D			
Undergraduate Research Posters *(CHED)		P			
Structure & Function of 2D Materials *(ANYL)			D		
Functional Materials from Biopolymer Self-Assembly & Self-Organization *(CELL)				D	A
Molecular Interactions of Synthetic Nanoparticles with Membranes *(ANYL)				D	
Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation *(ENFL)				P	A

Division of Computers in Chemistry	COMP				
<i>H. Woodcock, J. Shen, M. Feig, Program Chairs</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
Computational Studies of Water	A				
Membrane Protein Simulations & Free Energy Approaches	D	D	D		
Recent Advances in DFT & TDDFT: Theory & Simulations NNB	D	D	D		
Material Science NNB	D				D
COMP Meets CRYO: New Frontiers in Flexible Fitting, Image Processing & Refinement of Cryo-EM Data NNB	D				
Emerging Technologies in Computational Chemistry	P				
Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces NNB		D	D	D	D
Revolutionizing Chemistry with Artificial Intelligence NNB		D	D	D	
Data to Decisions: Frank Brown Memorial Symposium		D			
Sci-Mix		E			
Advancing RNA Designs			A		
Drug Design			P	D	D
Chemical Computing Group Graduate Student Travel Awards			E		
NVIDIA GPU Award			E		
OpenEye Outstanding Junior Faculty Award			E		
Poster Session			E		

Division of Computers in Chemistry (continued)	COMP				
<i>H. Woodcock, J. Shen, M. Feig, Program Chairs</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
Wiley Computers in Chemistry Outstanding Postdoc Award **			E		
Molecular Mechanics: Computational Studies of Membranes & Transmembrane Channels & Transporters				A	
Quantum Mechanics NNB				D	A
Molecular Mechanics				P	D
Use of Computer Simulation to Teach Chemical Kinetics & Enzyme Kinetics in Undergraduate Research & Education *(CHED)	A				
Materials in Extreme Environments *(PHYS)		P	A	D	D
Undergraduate Research Posters *(CHED)		P			
GSSPC: Frontiers in Computational Chemistry: Bridging the Gap Between Theory & Experiment *(CHED)				D	
DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis *(COMSCI)				D	
Computational Methods for Lanthanides & Actinides: Theory & Applications *(NUCL)				E	P

Division of Energy & Fuels	ENFL				
<i>J. Liu, Program Chair</i>					
Renaissance Boston Waterfront	S	M	Tu	W	Th
Petroleum, Natural Gas, Gas Hydrates & Shale Gas	D	A			
USA-China Symposium on Energy NNB	D	D	D		
Battery Technology: Vehicle to Grid NNB	D	D			
2D Materials: Innovative Materials & Devices for Energy & Fuels NNB	D	D			
Carbon Dioxide Conversion & Artificial Photosynthesis NNB	D				
Innovative Nanomaterials Used in Solar Energy NNB	D				
Innovative Materials & Integrated Pathways for Sustainable Energy & Resource Production NNB	D				
Nanoscience of Energy Storage NNB		D	A	D	
Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage NNB		D	D	D	A
Sustainable Energy Conversion via Innovative Electrocatalysis & Photocatalysis		D	D	D	
Energy & Fuels Storch Award in Fuel Science: Symposium in Honor of Andrew Herring ** NNB		D	D		
Novel Catalytic Materials NNB		P	D	D	

Division of Energy & Fuels (continued)	ENFL				
<i>J. Liu, Program Chair</i>					
Renaissance Boston Waterfront	S	M	Tu	W	Th
Nanomaterials Used in Energy & Fuels NNB		P			
Sci-Mix		E			
Nanomaterials & Nanotechnology in the Oil & Gas Industry NNB			D	A	
Biomass to Energy, Chemicals & Functional Materials NNB			D	D	
2018 Energy & Fuels Joint Award for Excellence in Publication: Symposium in Honor of Fateme Rezaei ** NNB			P		
Sustainable Bioenergy Production				A	
International Symposium on Mesoporous Zeolites				D	
Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation ** NNB				P	A
Perovskite Solar Cell & Water Splitting for Efficient Hydrogen Generation NNB				P	A
Nanoscaled Electrocatalysts Used in Fuel Cells & Hybrid Vehicles NNB					A
Catalysis for Environmental & Energy Applications *(ENVR)	A			AE	
Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency *(ENVR)	D	A		E	
Designing Polymers for Function in Electrochemical Energy Storage Devices *(PMSE)	D	D			
Analysis of Materials for Energy Storage *(ANYL)		D			
Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications *(ENVR)		P	D	E	
Advanced Materials for Energy & the Environment: Design, Fabrication & Application *(ENVR)			D	DE	D
Electrical/Electrochemical Technologies for Environmental Applications *(ENVR)				DE	D

Division of Environmental Chemistry	ENVR				
<i>J. Goldfarb, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Catalysis for Environmental & Energy Applications ** NNB	A			AE	
Advances in Sensors & Biosensors for Environmental Monitoring **	D	A		E	
Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency **	D	A		E	

Division of Environmental Chemistry (continued)	ENVR				
<i>J. Goldfarb, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal **	D	A			
Environmental Behaviors & Health Effects of Pollutants: A Symposium in Honor of Prof. Guibin Jiang **	D	D		E	
Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation **	D			E	
Environmental Nanometrology ** NNB	D				
Chemistry of Struvite & Slow-Release Fertilizers: From Fundamentals of Crystal Growth to Engineered Nutrient Recovery & Their Release **	P			E	
SETAC-ENVR Joint Symposium: Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans **	P				
Emerging Challenges in the Era of Drinking Water Insecurity & Inequality & the Search for Low-Cost Solutions **		A		E	
Citizen Science & Chemistry **		A			
Advances in Carbon Nanomaterial Design & Applications for Environmental Sustainability NNB		D		E	
Environmental Health & Safety of Emerging Chemicals & Technologies **		D		E	
Synthetic Biology: The State of the Science **		D			
Environmental Biofilm Engineering: Harnessing the Power of Biofilms for Contaminant Removal & Resource Recovery **		P	A	E	
Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment **		P	D	DE	A
Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications **		P	D	E	
Microplastic Pollution: Sources, Sinks & Solutions **		P			
Showcasing Emerging Investigators: A Symposium by the RSC Environmental Science Journals ** NNB		P			

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Division of Environmental Chemistry (continued)	ENVR				
<i>J. Goldfarb, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Sci-Mix		E			
Green Chemistry & the Environment **			D	AE	
Advanced Oxidation for Water Treatment: Applications & Implications			D	DE	A
Advanced Materials for Energy & the Environment: Design, Fabrication & Application ** NNB			D	DE	D
Fate of Nanomaterials in Consumer Products: Transformation & Transportation in the Environment NNB			D	E	
Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems **			D	E	
C. Ellen Gonter Environmental Graduate Student Award Symposium **			P		
From Lab to Tap: Implications of Scaling Up Nano-Enabled Environmental Technologies ** NNB				D	
Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications **				DE	A
Electrical/Electrochemical Technologies for Environmental Applications **				DE	D
Wastewater-Based Epidemiology: Opportunities & Challenges **				PE	A
Environmental Obesogens: Exposure Pathways, Mechanism of Action & Trends **				PE	
Nanobubbles: A Sustainable Solution for Water Treatment & Agricultural Applications NNB				E	D
Division of Environmental Chemistry General Poster Session				E	
Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans				E	
Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal				E	
How Can Advances in Chemistry Improve Human Health Exposure Assessment? *(AGRO)	A				
Synergistic Approaches to Lignocellulosic Biomass Research *(CELL)	D				
Microbial Chemical Processes & Advanced Nanotechnology for Contaminated Site Remediation *(GEOC)	E			P	
Pesticide Spray Drift: Application, Evaluation & Mitigation *(AGRO)	A			P	
Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies *(AGRO)	A				

Division of Environmental Chemistry (continued)	ENVR				
<i>J. Goldfarb, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Reducing Uncertainty in Modeling the Environmental & Human Health Exposure to Agrochemicals *(AGRO)		A			
Rational Design of Multifunctional Renewable-Resourced Materials *(CELL)		D	D		
Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces *(GEOC)		D			
Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices *(AGRO)		P		P	
Environmental Study Design: Current & Emerging Guidelines to Fulfill Regulatory Needs *(AGRO)		P			
Showcasing Emerging Investigators: A Symposium by the RSC Environmental Science Journals *(ENVR)		P			
Undergraduate Research Posters *(CHED)		P			
Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks *(AGRO)			A	P	
Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in Honor of George P. Lahm *(AGRO)			D	D	
AGRO-SETAC Joint Symposium: Role of Monitoring Data in Advancing Regulatory Risk Assessment *(AGRO)					A
Visualizing Heavy Element Contamination in the Environment at the Nanoscale *(GEOC)					A
Functional Materials from Biopolymer Self-Assembly & Self-Organization *(CELL)				D	A
Atmospheric Fate & Transport of Volatilized Agricultural Emissions *(AGRO)				D	
Environmental Study Design: Current & Emerging Guidelines *(AGRO)				P	
New Analytical Technologies for Pesticide Analysis *(AGRO)				P	
Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer *(AGRO)				P	
Role of Monitoring Data in Advancing Regulatory Risk Assessment *(AGRO)				P	
Surfactant & Colloid Science as Applied to Agrochemical Formulations *(AGRO)				P	
AGRO-SETAC Joint Symposium: Challenges of Utilizing Higher-Tier Ecotoxicity Data in Risk Assessment & Risk Management of Pesticides *(AGRO)					A

Division of Geochemistry	GEOC				
<i>N. Kabengi, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Interfacial Chemistry under Nanoscale Confinement **	D				
General Geochemistry	PE				
Microbial Chemical Processes & Advanced Nanotechnology for Contaminated Site Remediation **	E			P	
Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces **		D			
Mechanistic Understanding of Mineral Growth & Dissolution			D		
Visualizing Heavy Element Contamination in the Environment at the Nanoscale **				A	
Environmental Behaviors & Health Effects of Pollutants: A Symposium in Honor of Prof. Guibin Jiang *(ENVR)	D	D		E	
Environmental Nanometrology *(ENVR)	D				
SETAC-ENVR Joint Symposium: Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans *(ENVR)	P				
Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment *(ENVR)		P	D	DE	A
Environmental Radiochemistry *(NUCL)		P	D	E	
Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems *(ENVR)			D	E	

Division of the History of Chemistry	HIST				
<i>N. Tsarevsky, Program Chair</i>					
Seaport Boston Hotel	S	M	Tu	W	Th
Tutorial & General Papers	A				
Past ACS Presidents: The Life & Career of Arthur Cope	P				
Louis Pasteur's Discovery of Molecular Chirality: Review & Analysis on the 170th Anniversary		D			
Sci-Mix		E			
HIST Award Symposium Honoring David Lewis **			D		
Polymer History *(POLY)				P	

Division of Industrial & Engineering Chemistry	I&EC				
<i>C. Abney, R. Mayes, Program Chairs</i>					
Seaport Boston Hotel	S	M	Tu	W	Th
Industrial Research of Chemists Local to the New England Region **	P				
Chemistry of Molten Salts **		D			
Sci-Mix		E			
I&EC Graduate Student Awards Symposium **			D		
General Papers ** NNB				A	

Division of Industrial & Engineering Chemistry (continued)	I&EC				
<i>C. Abney, R. Mayes, Program Chairs</i>					
Seaport Boston Hotel	S	M	Tu	W	Th
General Posters				E	
Catalysis for Environmental & Energy Applications *(ENVR)	A			AE	
Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency *(ENVR)	D	A		E	
Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation *(ENVR)	D			E	
Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications *(ENVR)		P	D	E	
Nanomaterials: Applications, Safety Considerations & Implications for Human Health & the Environment *(CHAS)		P			
Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in Honor of George P. Lahm *(AGRO)			D	D	

Division of Inorganic Chemistry	INOR				
<i>N. Radu, S. Koch, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Undergraduate Chemistry Majors Inorganic Symposium	A				
Inorganic Catalysts	AE	A			
Bioinorganic Chemistry	AE		P	DE	
Recent Advances in Red & Black Phosphorus Chemistry	D	A			
Coordination Chemistry	D	A	E	DE	
Chemistry of Materials	D	D	D	DE	
Organometallic Chemistry	DE	P	AE	DE	
Electrochemistry	P		E		
Inorganic Young Investigator Awards	P				
Organometallics Distinguished Author Symposium	P				
Recent Advances in the Photochemistry & Photophysics of the P-Block Elements	E	P	D		
Lanthanide & Actinide Chemistry	E		P		
Solid-State Inorganic Chemistry	E		P		
Main Group Chemistry	E			P	

*Co-sponsored symposium with primary organizer shown in parenthesis; located with primary organizer.

**Primary organizer of a cosponsored symposium.

CIGE: Chemistry's Impact on the Global Economy

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Division of Inorganic Chemistry (continued)	INOR				
<i>N. Radu, S. Koch, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Inorganic Chemistry Lectureship: Symposium in Honor of Leroy Cronin		A			
The Halpern Legacy: Mechanism, Catalysis & Organotransition Metal Chemistry		D	D		
Women in Nanotechnology **		D			
Water Splitting & Solar Fuels: Progress & Challenges to Widespread Utilization		P	D		
Pathways for Industrial Chemists Symposium		P			
Sci-Mix		E			
Inorganic Spectroscopy			A	E	
Inorganic Nanoscience Award Symposium			A		
Nanoscience			E	A	
Environmental & Energy-Related Inorganic Chemistry			E	D	
Chemical Applications of Ultrafast X-Ray/ XUV Spectroscopy & Scattering *(PHYS)	D	D	A	D	A
Synthesis & Characterization of Nanomaterials for Sustainable Energy *(MPPG)	D	D			
Chemistry of Materials Lectureship & Best Paper Award *(PMSE)		A			
Innovation & Commercialization in the Chemical Sector *(SCHB)		A			
Undergraduate Research Posters *(CHED)		P			
Mechanisms of Binding, Transport & Biotransformation of Toxic Metals *(TOXI)			A		

Division of Medicinal Chemistry	MEDI				
<i>A. Stamford, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
General Oral Session	A	A	P	P	
Small-Molecule Approaches to the Treatment of Inflammatory Bowel Disease	A				
Awards Session **	P		A		
Emerging Trends in Target Identification	P				
General Poster Session	E			E	
Best Practices in Fragment-Based Drug Design		A			
New Advances in Treating Rare Diseases		A			
Biology's Magic Methyl: Methyltransferases & Demethylases as Epigenetic & Neurotransmitter Regulators		P			
Confronting the Opioid Epidemic: Novel Treatments for Chronic Pain		P			
Drug Discovery for the Treatment of Childhood Neuromuscular Diseases		P			
Sci-Mix		E			

Division of Medicinal Chemistry (continued)	MEDI				
<i>A. Stamford, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Projects of NCI Chemical Biology Consortium: A Unique, Collaborative Approach to Cancer Drug Discovery **			A		
Structure-Based Drug Design for GPCRs & Other Difficult Targets			P		
Antibiotic Resistance: Recent Advances in Drug Discovery & Development				A	
First-Time Disclosure of Clinical Candidates				D	
Bioactives & Neurodegenerative Diseases *(AGFD)	D				
Structures & Functions of Glycans *(CARB)	P	D			
Bioactives & Skin Health *(AGFD)		D			
Tetrahedron Prize *(ORGN)		P			
Undergraduate Research Posters *(CHED)		P			
DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis *(COMSCI)			D		
Nanomaterials in Drug Delivery: Efficacy & Toxicity Considerations *(TOXI)				A	

Division of Nuclear Chemistry & Technology	NUCL				
<i>J. Auxier, Program Chair</i>					
Seaport Boston Hotel	S	M	Tu	W	Th
Honor Symposium for Dr. Leonard Mausner **	A				
New Radioisotope Chemistry for Nuclear Medicine	P				
Nuclear Forensics		A			
Environmental Radiochemistry **		P	D	E	
General Topics in Radiochemistry				A	
Radiochemistry Education				P	A
Computational Methods for Lanthanides & Actinides: Theory & Applications **				E	P
Chemistry of Molten Salts *(I&EC)		D			
Visualizing Heavy Element Contamination in the Environment at the Nanoscale *(GEOC)				A	

Division of Organic Chemistry	ORGN				
<i>R. Broene, S. Silverman, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
New Reactions & Methodology	D	D	D	E	
Heterocycles & Aromatics	D			E	
Young Investigator Symposium	D				
Green Chemistry Innovations as a Useful Tool in the Pharmaceutical Industry	D				
Photoredox Chemistry	DE				

Division of Organic Chemistry (continued)	ORGN				
<i>R. Broene, S. Silverman, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
JOC-OL Lectureship	P				
Asymmetric Reactions & Syntheses	E		D	A	
Peptides, Proteins & Amino Acids	E		D		
Metal-Mediated Reactions & Syntheses	E		P	A	
CH Activation	E			D	
Organometallics Distinguished Author Award		A			
M-CHEM: A Whole Lot of Shaking Going On **		A			
Biologically Related Molecules & Processes		D	E		
Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species		D	E		
Role of Organic Chemistry in Early Clinical Drug Development		D			
Flow Chemistry & Continuous Processes	P		E		
Tetrahedron Prize **	P				
Sci-Mix		E			
Nanoscience, Nanotechnology & Beyond NNB			AE		
Cope Award Symposium			D		
Young Academic Investigator Symposium			D		
Molecular Recognition & Self-Assembly			E	P	A
Chemistry of Fullerenes, Carbon Nanotubes & Graphene			E		
Materials, Devices & Switches			E		
Technical Achievements in Organic Chemistry **				D	
Diminutive Molecules, Big Impact: The Chemistry of ADC Linker-Payloads				D	
Total Synthesis of Complex Molecules				DE	A
Carbon Allotropes, Materials, Devices & Switches				P	A
Reporting & Reproducibility of Chemistry Research Data *(CINF)	D				
Structures & Functions of Glycans *(CARB)	P	D			
M-CHEM: A Whole Lot of Shaking Going On *(ORGN)		A			
Publishing Chemical Data *(CINF)		D			
Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in Honor of George P. Lahm *(AGRO)			D	D	
DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis *(COMSCI)			D		
Strategies for Radiolabeling Agrochemicals in Regulatory Studies & Advanced Techniques for Characterization *(AGRO)				P	

Division of Organic Chemistry (continued)	ORGN				
<i>R. Broene, S. Silverman, Program Chairs</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Surfactant & Colloid Science as Applied to Agrochemical Formulations *(AGRO)				P	
New Synthetic Tools & Analytical Methods for the Near-IR *(ANYL)					D

Division of Physical Chemistry	PHYS				
<i>M. Duncan, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
Strong Field Chemistry	D	D	A	A	
Characterization, Detection & Application of Excitons in Chemistry NNB	D	D	A	D	A
Chemical Applications of Ultrafast X-Ray/XUV Spectroscopy & Scattering ** NNB	D	D	A	D	A
Electrochemical Interfaces NNB	D	D	A	D	A
Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in Honor of Ahmed Zewail NNB	D	D	A	D	A
From Potential Energy Surfaces to Dynamics & Kinetics NNB	D	D	A	D	D
Information Theory & Dynamics: From Elementary Processes to Systems Chemistry: Symposium in Honor of Raphael Levine NNB	D	D			
New Spectroscopic Techniques for Astrochemistry	P	D	A	D	D
Materials in Extreme Environments ** NNB	P	A	D	D	
Sci-Mix		E			
Structural Photonics: Determining the Structural Influence on the Physical Properties of Photonic Materials NNB			A	D	D
PHYS Awards Symposium ** NNB			P		
PHYS Poster Session				E	
Technical Developments & Applications of Optical Chemical Imaging *(ANYL)	D	D	A		
Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier *(ANYL)	D	D			
Structure & Function of 2D Materials *(ANYL)			D		
Molecular Interactions of Synthetic Nanoparticles with Membranes *(ANYL)				D	

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Division of Polymer Chemistry	POLY				
<i>C. Lipscomb, T. Epps, B. Helms, Program Chairs</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
General Topics: New Synthesis & Characterization of Polymers	D	A	E	D	A
Vitrimers & Other Covalent Adaptable Networks	D	D	AE		
Polymer Chemistry for Functional Materials	D	D	DE		
TOSOH Lectures **	D	D	DE		
Polymer Science of Everyday Things	D				
Polymers in Cultural Heritage	D				
Industrial Polymer Scientist Award Symposium in Honor of Qinghuang Lin		A			
Ionic Liquids in Polymer Science & Engineering: From Molecular Design to Energy & Beyond		D	DE	A	
Block Polymer Synthesis & Nanoscale Self-Assembly NNB		P	DE	D	A
Industrial Innovations in Polymer Science		P			
Polymers for Defense Applications			DE	D	A
Materials Genome Approach to Structure & Function			PE	D	A
DSM Science & Technology Award				A	
Biomacromolecules/Macromolecules Young Investigator Award				P	
Polymer History **				P	
POLY/PMSE Plenary & Awards Event **				E	
Porous Polymers *(PMSE)	D	D	D	D	
Synergistic Approaches to Lignocellulosic Biomass Research *(CELL)	D				
Value-Added Derivatives from Agro-Based Raw Materials *(AGFD)	E			D	A
Structure & Assembly of Food Biopolymers *(AGFD)		D	A		
Surface, Interface & Coating Materials *(PMSE)		D	D	D	A
Rational Design of Multifunctional Renewable-Resourced Materials *(CELL)		D	D		
Undergraduate Research Posters *(CHED)		P			
Joint PMSE-POLY Poster Session *(PMSE)			E		
Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in Honor of Aleksandr V. Zhukhovitskiy *(PMSE)				A	
Functional Materials from Biopolymer Self-Assembly & Self-Organization *(CELL)				D	A

Division of Polymeric Materials Science & Engineering	PMSE				
<i>E. Harth, B. Olsen, C. Snyder, X. Jia, A. Norman, Program Chairs</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
Eastman Chemical Student Award in Applied Polymer Science **	A				
Porous Polymers ** NNB	D	D	D	D	
Designing Polymers for Function in Electrochemical Energy Storage Devices ** NNB	D	D			
Dynamic Bonds for Structurally Precise Polymeric Materials NNB	D	D			
Probing Structure & Morphology of Polymers & Polymer Composites in Real & Reciprocal Space NNB	D	D			
Tough & Toughened Polymers NNB	D	D			
PMSE Young Investigators' Symposium	D	D			
General Papers & New Concepts in Polymeric Materials	D		A	D	A
Stereochemical Enhancement of Materials Properties	D				
Journal of Polymer Science Innovation Award: Symposium in Honor of Rachel O'Reilly **	P				
Chemistry of Materials Lectureship & Best Paper Award **		A			
Surface, Interface & Coating Materials ** NNB	D	D	D	A	
PMSE Future Faculty Symposium	D	D			
Synthesis, Processing & Device Engineering of Polymeric Electronic Materials NNB	P	D	D		
Sci-Mix		E			
Bioconjugate Chemistry Lectureship & Award: Symposium in Honor of Wolfgang Parak ** NNB			A		
Multifunctional Nanocomposites & Surface Damage Phenomena in Polymers NNB			D	D	
Roy W. Tess Award: Symposium in Honor of Christopher Bowman **			D		
Advances in Human Space Exploration: Second ACS NASA Symposium			D		
Advances in Bioconjugate Materials for Biomedical Applications			P		
Joint PMSE-POLY Poster Session **			E		
Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in Honor of Aleksandr V. Zhukhovitskiy **				A	
Polymer Nanoscience & Nanotechnology NNB				D	
TOSOH Lectures *(POLY)	D	D	DE		
Block Polymer Synthesis & Nanoscale Self-Assembly *(POLY)		P	DE	D	A

Division of Polymeric Materials Science & Engineering (continued)	PMSE				
<i>E. Harth, B. Olsen, C. Snyder, X. Jia, A. Norman, Program Chairs</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
Undergraduate Research Posters *(CHED)		P			
Polymer History *(POLY)				P	
POLY/PMSE Plenary & Awards Event *(POLY)				E	

Division of Professional Relations	PROF				
<i>R. Libby, Program Chair</i>					
Aloft Boston Seaport	S	M	Tu	W	Th
Women of Color in the Academy: Empirical Studies & Models of Success **	A				
Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in Honor of Barbara Belmont **	P				
How to Get Your 1st Industrial Job **		A			
TRiO & Chemistry **		P			
Sci-Mix		E			
Broadening Participation in STEM: Empirical Studies & Models of Success **			D		
Exploring the "Nano": Leveraging Unique Abilities				P	
Honor Symposium for Dr. Leonard Mausner *(NUCL)	A				
Eastman Chemical Student Award in Applied Polymer Science *(PMSE)	A				
Merck Research Award Symposium *(WCC)	A				
Chemistry Teachers Day Program *(CHED)	D				
Informal STEM Education: Innovation & Collaboration *(CHED)	D				
Awards Session *(MEDI)	P		A		
Founders' Award *(TOXI)	P				
Intellectual Property Basics for Chemical Businesses *(SCHB)	P				
Chemical Angel Network: Chemists Investing in Chemical Companies *(BMGT)	P				
Colloid & Surface Chemistry in Industry: Applications & Career Opportunities *(COLL)	E	D			
Entrepreneurs' Poster Session *(SCHB)	E				
Developments in Pharmaceutical Patent Law *(CHAL)		A			
Energy & Fuels Storch Award in Fuel Science: Symposium in Honor of Andrew Herring *(ENFL)		D	D		
Science Diplomacy & Chemistry Education *(CHED)		D			
Showcasing Emerging Investigators: A Symposium by the RSC Environmental Science Journals *(ENVR)		P			
Eminent Scientist Lecture & Luncheon with Dr. JoAnne Stubbe *(SOCED)		P			

Division of Professional Relations (continued)	PROF				
<i>R. Libby, Program Chair</i>					
Aloft Boston Seaport	S	M	Tu	W	Th
Francis P. Garvan-John M. Olin Medal Symposium in Honor of Valerie Kuck *(WCC)		P			
Young Scientist/JAFC Best Paper Awards *(AGFD)			A		
Bioconjugate Chemistry Lectureship & Award: Symposium in Honor of Wolfgang Parak *(PMSE)			A		
Financial & Business Formation Strategies for Start-Ups & Chemical-Related Businesses *(SCHB)			A		
HIST Award Symposium Honoring David Lewis *(HIST)				D	
Roy W. Tess Award: Symposium in Honor of Christopher Bowman *(PMSE)				D	
I&EC Graduate Student Awards Symposium *(I&EC)				D	
Mom the Chemistry Professor *(WCC)				D	
C. Ellen Gonter Environmental Graduate Student Award Symposium *(ENVR)				P	
AGFD Award Symposium in Honor of Dr. Sevim Erhan *(AGFD)				P	
Langmuir Lectures, NanoLetters Award Lecture, ACS Materials & Interfaces Award Lecture *(COLL)				P	
2018 Energy & Fuels Joint Award for Excellence in Publication: Symposium in Honor of Fateme Rezaei *(ENFL)				P	
PHYS Awards Symposium *(PHYS)				P	
Wiley Computers in Chemistry Outstanding Postdoc Award *(COMP)				E	
Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in Honor of Aleksandr V. Zhukhovitskiy *(PMSE)					A
Non-Traditional Careers in Chemistry *(CHAL)					A
POLY/PMSE Plenary & Awards Event *(POLY)					E
Legal Aspects of Agriculture, Agrochemicals & Agribusiness *(AGRO)					A

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Division of Small Chemical Businesses	SCHB				
<i>J. Sabol, Program Chair</i>					
Aloft Boston Seaport	S	M	Tu	W	Th
Open House with Division of Small Chemical Businesses	A				
Intellectual Property Basics for Chemical Businesses **	P				
Entrepreneurs' Poster Session **	E				
Innovation & Commercialization in the Chemical Sector **		A			
In Memory of Arthur Obermayer, Co-Founder of the Small Business Innovative Research (SBIR) Grant Programs		P			
Sci-Mix		E			
Financial & Business Formation Strategies for Start-Ups & Chemical-Related Businesses **			A		
Catalyzing Collaborations from Ideas to Commercial Development			P		
Chemical Angel Network: Chemists Investing in Chemical Companies *(BMGT)	P				

Academic Employment Initiative	AEI				
<i>C. Kuniyoshi, J.C. Schlatterer, N. DiFabio, Program Chairs</i>					
Located with Primary Sponsor	S	M	Tu	W	Th
Water (The Greenest Solvent): Catalysis in Aqueous & Bi-Phase Systems *(CATL)				D	A

Committee on Environmental Improvement	CEI				
<i>C. Middlecamp, Program Chair</i>					
Located with Primary Sponsor	S	M	Tu	W	Th
SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal *(ENVR)	D	A			
Citizen Science & Chemistry *(ENVR)		A			
Environmental Health & Safety of Emerging Chemicals & Technologies *(ENVR)		D		E	
Synthetic Biology: The State of the Science *(ENVR)		D			
Microplastic Pollution: Sources, Sinks & Solutions *(ENVR)		P			
Undergraduate Research Posters *(CHED)		P			
Green Chemistry & the Environment *(ENVR)			D	AE	
Advanced Materials for Energy & the Environment: Design, Fabrication & Application *(ENVR)			D	DE	D

Committee on Environmental Improvement (continued)	CEI				
<i>C. Middlecamp, Program Chair</i>					
Located with Primary Sponsor	S	M	Tu	W	Th
Citizens First! Using Real-World Contexts for Engaging Students in Learning Chemistry *(CHED)			D		
Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond *(CHED)				D	

International Activities Committee	IAC				
<i>J. Breffke, Program Chair</i>					
Located with Primary Sponsor	S	M	Tu	W	Th
Chemistry as a Second Language: Strategies for Global Scientific Communication *(YCC)	P				
Science Diplomacy & Chemistry Education *(CHED)		D			
Celebrating the Success of an Exchange Program for German & American Chemistry Students *(CHED)			P		
Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond *(CHED)					D

Committee on Minority Affairs	CMA				
<i>J. Sarquis, R. Joseph, Program Chairs</i>					
Located with Primary Sponsor	S	M	Tu	W	Th
Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in Honor of Barbara Belmont *(PROF)	P				
Emerging Challenges in the Era of Drinking Water Insecurity & Inequality & the Search for Low-Cost Solutions *(ENVR)		A		E	

Committee on Science	COMSCI				
<i>M. Fisher, Program Chair</i>					
Boston Convention & Exhibition Center	S	M	Tu	W	Th
DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis **			D		
Synthetic Biology: The State of the Science *(ENVR)		D			
Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers *(PRES)		D			

Society Committee on Education	SOCED				
<i>A. Keirstead, Program Chair</i>					
Seaport Boston Hotel	S	M	Tu	W	Th
Eminent Scientist Lecture & Luncheon with Dr. JoAnne Stubbe **		P			
Undergraduate Research Papers *(CHED)	P				
Undergraduate Research Posters *(CHED)		P			
Successful Student Chapters *(CHED)		E			

Committee on Technician Affairs	CTA				
<i>C. Libby, Program Chair</i>					
Located with Primary Sponsor	S	M	Tu	W	Th
Industrial Research of Chemists Local to the New England Region *(I&EC)	P				
How to Get Your 1st Industrial Job *(PROF)		A			
I&EC Graduate Student Awards Symposium *(I&EC)			D		
General Papers *(I&EC)				A	
Technical Achievements in Organic Chemistry *(ORGN)				D	

Women Chemists Committee	WCC				
<i>R. Cole, Program Chair</i>					
Westin Boston Waterfront / Sheraton Boston Hotel	S	M	Tu	W	Th
Merck Research Award Symposium **	A				
Francis P. Garvan–John M. Olin Medal Symposium in Honor of Valerie Kuck **		P			
Mom the Chemistry Professor **			D		
Women of Color in the Academy: Empirical Studies & Models of Success *(PROF)	A				
Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in Honor of Barbara Belmont *(PROF)	P				
Journal of Polymer Science Innovation Award: Symposium in Honor of Rachel O'Reilly *(PMSE)	P				
Women in Nanotechnology *(INOR)		D			
TRiO & Chemistry *(PROF)		P			
Broadening Participation in STEM: Empirical Studies & Models of Success *(PROF)			D		
2018 Energy & Fuels Joint Award for Excellence in Publication: Symposium in honor of Fateme Rezaei *(ENFL)			P		
Non-Traditional Careers in Chemistry *(CHAL)				A	

Younger Chemists Committee	YCC				
<i>D. Williams, M. Brann, K. Heroux, Program Chairs</i>					
Westin Boston Waterfront	S	M	Tu	W	Th
Chemistry as a Second Language: Strategies for Global Scientific Communication **	P				
Artificial Intelligence & its Impact on The Chemical Enterprise ** NNB		A			
Best of Both Worlds: Green Chemistry in Academia & Industry			D		
Chemistry in Space & Past, Present & Future ** NNB				A	
Student-Organized Symposia: Supramolecular Analytical Chemistry *(ANYL)	D				
Student Organized Symposia: Preparative Mass Spectrometry: Recent Advances & Applications *(ANYL)	P				
How to Get Your 1st Industrial Job *(PROF)		A			
TRiO & Chemistry *(PROF)		P			
Celebrating the Success of an Exchange Program for German & American Chemistry Students *(CHED)			P		
Student-Organized Symposia: New Paradigms in Nanoscale Electrocatalysis *(ANYL)				A	
Non-Traditional Careers in Chemistry *(CHAL)				A	
Next-Generation Instrumentations & Measurement in Space Exploration *(ANYL)				P	
Student-Organized Symposia: New Mass Spectrometry Methods for Polymer Analysis *(ANYL)				P	
Student-Organized Symposia: Probing Biological Systems with Nonlinear Optics *(ANYL)				P	
Student-Organized Symposia: Enabling Spectroscopies for Nanomaterial Applications: Energy Conversion to Therapeutics *(ANYL)					D

*Co-sponsored symposium with primary organizer shown in parenthesis; located with primary organizer.

**Primary organizer of a cosponsored symposium.

CIGE: Chemistry's Impact on the Global Economy

A = AM AE = AM/EVE D = AM/PM DE = AM/PM/EVE E = EVE

P = PM PE = PM/EVE

NNB = Nanoscience, Nanotechnology & Beyond

Technical Program

PRES

PRESIDENTIAL EVENTS

P. Dorhout, *Program Chair*

SUNDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 103

Moving the Safety Values of the ACS Forward

Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

J. M. Pickel, *Organizer, Presiding*

8:30 Introductory Remarks.

8:40 **PRES 1.** Safety in the context of the ACS Strategic Plan. *R. Stuart*

9:10 **PRES 2.** Promoting safety culture: chemical safety information initiatives. *C.I. Nitsche*

9:40 **PRES 3.** Communicating chemical safety. *K.B. Jeskie*

10:10 Intermission.

10:25 **PRES 4.** Developing student leadership skills in academic laboratory safety. *K.A. Serrano*

10:55 **PRES 5.** A step in the right direction. *D. Mason*

11:25 **PRES 6.** Talking safety: Why safety matters. *J.L. Maclachlan*

11:55 Concluding Remarks.

SUNDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 103

Moving the Safety Values of the ACS Forward

Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

J. M. Pickel, *Organizer, Presiding*

1:15 Introductory Remarks.

1:20 **PRES 7.** Developing an education path for all chemists. *D.C. Finster*

1:50 **PRES 8.** Building an ecosystem of chemical safety information. *L.R. McEwen, R. Stuart*

2:20 **PRES 9.** Green chemistry's role in promoting safety. *J.E. Wissinger*

2:50 Panel Discussion.

3:20 Concluding Remarks.

Chemistry as a Second Language: Strategies for Global Scientific Communication

Sponsored by YCC, Cosponsored by CPRC, IAC and PRES⁺

Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in honor of Barbara Belmont

Sponsored by PROF, Cosponsored by CMA, PRES⁺ and WCC

Nanoscience, Nanotechnology & Beyond Opening Session

Sponsored by MPPG, Cosponsored by PRES⁺

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 103

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

H. Christen, A. L. Frischknecht, D. Prendergast, *Organizers*

M. Chi, T. Rajh, D. Su, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 **PRES 10.** The need for fundamental understanding over multiple length scales: New applications demand new battery chemistries to achieve previously unrealized functionality. *E.S. Takeuchi, K.J. Takeuchi, A.C. Marschilok*

8:35 **PRES 11.** Molecular-scale understanding of the structure and dynamics of materials at electrified interfaces. *D. Prendergast*

8:50 **PRES 12.** Corraling electrons and ions in vanadium oxides: Tales from some rugged energy landscapes. *S. Banerjee*

9:20 **PRES 13.** Exploring chemical heterogeneities in alkali metal ion cathode materials. *F. Lin*

9:50 **PRES 14.** In situ study of ion ordering and transport by electron microscopy techniques. *M. Liu, D. Su, J.T. Sadowski*

10:05 Intermission.

10:30 **PRES 15.** Enabling metallic Li anodes through solid-state electrolytes. *J. Sakamoto*

11:00 **PRES 16.** Emerging microscopy techniques for probing interfacial ion transport. *M. Chi, N. Balke*

11:15 **PRES 17.** The anode/electrolyte interface for magnesium batteries. *T.S. Arthur*

11:45 **PRES 18.** Defect-driven electrode materials for energy storage systems. *H. Xiong*

SECTION B

Sheraton Boston Hotel
Back Bay D

Growing with Project SEED: 50 years and 10,000+ Students

Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

J. J. Pak, *Organizer*

D. L. Warner, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 **PRES 19.** Project SEED: An audacious experiment turns 50. *M.S. Jacobs*

8:55 **PRES 20.** Relationship. Relevance. Reach. *T. Gray*

9:15 **PRES 21.** Project SEED: From farm to pharma. *K. Hunt*

9:35 **PRES 22.** The SEED to a career in analytical chemistry. *A. Norelus*

9:55 Intermission.

10:05 **PRES 23.** The explosive impact of Project SEED. *D.E. Chavez*

10:25 **PRES 24.** Project SEED as a catalyst for careers in STEM. *R. Sharma*

10:45 **PRES 25.** Project SEED: The nucleus of my career. *R. Aviles-Mercado*

11:05 Panel Discussion: The Impact of Project SEED.

11:25 Concluding Remarks. *P. Dorhout*

Artificial Intelligence & its Impact on The Chemical Enterprise

Sponsored by YCC, Cosponsored by BMGT and PRES⁺

Synthetic Biology: The State of the Science

Sponsored by ENVR, Cosponsored by CEI⁺, COMSCI and PRES

MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 103

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

M. Chi, H. Christen, T. Rajh, D. Su, *Organizers*

A. L. Frischknecht, D. Prendergast, *Organizers, Presiding*

1:30 **PRES 26.** Unconventional computing with memristive devices and arrays. *J. Yang*

2:00 **PRES 27.** From lithium ion batteries to memristors - theory and modeling of ionic transport. *M. Chan*

2:15 **PRES 28.** NMR techniques to measure hydrophilic nanophase domain structure and water transport in polymer exchange membranes. *T.M. Alam, E.G. Sorte, C. Fujimoto, A.L. Frischknecht*

2:45 Intermission.

3:10 **PRES 29.** In situ investigation of dynamic transformations and mechanical degradation in battery materials. *M. McDowell, M. Boebinger, N. Kondekar, F. Cortes, J. Lewis*

3:40 **PRES 30.** Center for integrated nanotechnologies computational and experimental techniques for ion transport user science. *K. Jungjohann, R. Dingreville, M.J. Stevens, A.L. Frischknecht*

3:55 **PRES 31.** In-situ electrochemical S/TEM of lithium-ion batteries with Sn and Sn@TiO₂ anodes. *S. Goriparti, K.L. Harrison, K.L. Jungjohann*

4:25 Concluding Remarks.

Synthetic Biology: The State of the Science

Sponsored by ENVR, Cosponsored by CEI⁺, COMSCI and PRES

TUESDAY MORNING

Advances in Human Space Exploration: Second ACS NASA Symposium

Sponsored by PMSE, Cosponsored by PRES

TUESDAY AFTERNOON

The Role of the Chemical Sciences in Brain Research & the BRAIN Initiative

Sponsored by MPPG, Cosponsored by PRES

Advances in Human Space Exploration: Second ACS NASA Symposium

Sponsored by PMSE, Cosponsored by PRES

MPPG

Multidisciplinary Program Planning Group

P. Weiss, *Program Chair*

SUNDAY MORNING

SECTION B

Boston Convention & Exhibition Center
Room 156A

Synthesis & Characterization of Nanomaterials for Sustainable Energy

Cosponsored by INOR

H. Fan, M. Knez, *Organizers*

S. S. Wong, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 **MPPG 1.** Nano-metallurgical silicon - a novel energy material. *R.B. Wehrspohn*

9:05 MPPG 2. Design-rules for preparation of multicomponent metal chalcogenide nanostructures from sol-gel assembly: Optimizing heterogeneity and interfacial bonding for energy applications. *I. Hewavitharana, J. Davis, S.L. Brock*

9:35 MPPG 3. Designing hybrid nanostructures for energy-related applications. *D. Ma*
10:05 Intermission.

10:20 MPPG 4. Nanometer contact layers determining the photovoltage of perovskite solar cells. *J. Bisquert*

10:50 MPPG 5. Shining a light on ultra-stability in nanomaterials for energy-efficient solid-state lighting. *J.A. Hollingsworth*

11:20 MPPG 6. Template nanostructuring for energy conversion and storage devices. *Y. Lei*

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Ballroom West*

Nanoscience, Nanotechnology & Beyond Opening Session

Cosponsored by PRES[†]
P. S. Weiss, *Organizer, Presiding*

4:00 Introductory Remarks.

4:05 MPPG 7. 21st century medicine will transform healthcare: Opportunities for nanoscience and chemistry. *L. Hood*

4:55 Closing Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 156A*

Synthesis & Characterization of Nanomaterials for Sustainable Energy

Cosponsored by INOR
M. Knez, S. S. Wong, *Organizers*

H. Fan, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 MPPG 8. Nanostructured conversion materials for next generation Li and Li-ion batteries. *G. Yushin*

1:35 MPPG 9. Benefits and challenges of nanomaterials in electrochemical energy storage systems: Insights gained from multiscale (molecular- to meso-scale) characterization and theory. *A.C. Marschilok, K.J. Takeuchi, E.S. Takeuchi*

2:05 MPPG 10. Advanced anode materials for high-performance potassium ion batteries. *S. Guo*
2:35 Intermission.

2:50 MPPG 11. A sulfur-limonene based electrode for lithium-sulfur batteries: High-performance by self-protection. *Y. Yu*

3:20 MPPG 12. Atomic/molecular layer deposited inorganic-organic thin-film structures for energy harvesting and storage. *M. Karppinen*

3:50 MPPG 13. Function-oriented nanostructured polymeric gels for sustainable energy. *G. Yu*

SECTION C

*Boston Convention & Exhibition Center
Room 156B*

Nanostructured Materials for Energy Harvesting & Storage

J. Huang, M. S. Leite, M. T. McDowell, *Organizers, Presiding*
1:00 Introductory Remarks.

1:10 MPPG 14. Spectroscopic studies and coordinative interaction of Chitosan-azo dyes towards selected first row transition metals. *O. Ejeromedoghene*

1:30 MPPG 15. Spectroscopy of plasmonic Pd-Au alloy nanoparticle photocatalysts. *R.J. Dillon, J.P. McClure, K.N. Grew, C.A. Lundgren*

1:50 MPPG 16. A theoretical study on the mechanism of conductivity enhancement in PEDOT:PSS by solvent treatment. *E. Yildirim, W. Gang, S. Yang*

2:10 MPPG 17. Modulation of carrier type in nanocrystal-in-matrix composites by interfacial doping. *R. Sharma, A.M. Sawvel, D. Nordlund, A. Dong, R. Buonsanti, Z. Liu, J. Urban, D.J. Milliron*

2:30 MPPG 18. Molecular dynamics investigation of behavior of ionic liquids under high applied pressure. *S. Sharma, H. Kashyap*

2:50 Intermission.

3:00 MPPG 19. Design of electronic nanodevices with the novel layered nanostructure MXene. *S. Du*

3:20 MPPG 20. Ultrastrong aramid nanofiber membranes for dendrite-proof and heat-resistant battery separators. *M. Wang*

3:40 MPPG 21. Partially reduced graphene oxide-TiO₂ nanorods photocatalyst for degrading aqueous hazardous pollutants. *T. Peng, J.A. Lalman, F. Arefi-Khonsari*

4:00 MPPG 22. Carbon nanotube as a durable oxygen reduction electrode for proton exchange membrane fuel cell. *D. Lee, H. Kim*

4:20 Closing Remarks.

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

MONDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 156B*

Synthesis & Characterization of Nanomaterials for Sustainable Energy

H. Fan, S. S. Wong, *Organizers*
M. Knez, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 MPPG 24. Synthesis and applications of novel two-dimensional nanomaterials. *H. Zhang*

9:05 MPPG 25. Electronic and micromagnetic characterization of nanoferrites for sustainable energy applications. *G. Papaefthymiou Davis, C. Lewis, A.L. Tiano, S.S. Wong*

9:35 MPPG 26. Pervaporation separation of water - organic azeotropic mixtures using hydrophilic Poly (vinyl alcohol) nanocomposite membranes. *T. Jose, S.C. George, S. Thomas*

9:50 MPPG 27. Photocatalytic removal of NO_x pollutants in flue gas: Fundamentals, applications and future. *C. Yu, J. Wu, V. Nguyen, J. Lasek*

10:05 Intermission.

10:20 MPPG 28. Interfacial chemistry as an enabling tool in the development of colloidal photo- and electro-catalysts. *B.M. Cossairt, D. Henckel, D. Ung, T. Robison*

10:50 MPPG 29. Flexible and conducting nanofibers functionalized with photoactive ZnO for advanced water treatment. *G. Capilli, P. Calza, C. Minerio, M. Cerruti*

11:05 MPPG 30. Unraveling the electron transport and masking properties of g-C₃N₄ in Ni/Fe nanoparticle for enhanced TCE dechlorination. *R. Sahu, R. Doong*

11:20 MPPG 31. Synthesis and characterization of nanomaterials for sustainable energy applications. *H. Cheng, H. Zhang*

11:35 MPPG 32. Submonolayered Ru deposited on ultrathin Pd nanosheets used for enhanced catalytic applications. *X. Cui, Z. Zhang, H. Zhang*

SECTION A

*Boston Convention & Exhibition Center
Room 258A*

2018 C&EN Talented 12

B. Campos Seijo, L. Jarvis, *Organizers*
L. K. Wolf, *Organizer, Presiding*

8:00 MPPG 23. 2018 C&EN Talented 12. *L.K. Wolf*

SECTION B

*Boston Convention & Exhibition Center
Room 156A*

Spotlight on Nanoscience, Nanotechnology & Beyond in the Journal of the American Chemical Society

S. Krane, *Organizer*
P. J. Stang, *Presiding*

8:30 Introductory Remarks.

8:35 MPPG 33. Bio-inspired nanochannels with superwettability. *Y. Tian*

9:10 MPPG 34. DNA nanostructures for cellular delivery of therapeutics. *H.F. Sleiman*

9:45 MPPG 35. Surface encoding of nanoparticles for self-assembly and plasmonic bioapplications. *Y. Weizmann*

10:20 MPPG 36. Skin-inspired organic bioelectronic. *Z. Bao*

10:55 MPPG 37. From molecules to dynamic molecular systems. *B. Feringa*

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

MONDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 156B*

Synthesis & Characterization of Nanomaterials for Sustainable Energy

Cosponsored by INOR
H. Fan, M. Knez, *Organizers*
S. S. Wong, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 MPPG 38. Integrated micro-thermoelectric coolers by template assisted electrochemical deposition. *H. Reith, N. Perez Rodriguez, G. Lee, G. Schierning, K. Nielsch*

1:35 MPPG 39. Material characterizations by nanoscale X-ray imaging. *Y. Chu, H. Yan, X. Huang, M. Ge, E. Nazaretski, N. Bouet, P. Ilinski*

2:05 MPPG 40. Technique for characterization of buried interfaces at nanoscale. *A. Dolocan*

2:20 MPPG 41. In situ x-ray spectroscopy of nanocrystals undergoing cation exchange processes. *R.W. Meulenberg*
2:35 Intermission.

2:50 MPPG 42. Earth abundant and non-toxic FeS₂ nanocrystals for photovoltaic and catalytic applications. *C. Chen*

3:05 MPPG 43. Domain size, layer number and morphology control for graphene by chemical vapour deposition. *Z. Luo, I.H. Abidi, R. Xue*

3:20 MPPG 44. Understanding the spontaneous out of plane growth of ReS₂, and its application in energy harvesting. *D. Ghoshal, A. Yoshimura, T. Gupta, A.N. House, Y. Chen, T. Wang, J. Hatchel, J. Idrobo, S. Basuray, S. Shi, N. Koratkar*

3:35 MPPG 45. Biomimetic engineering of solid composite electrolytes for flexible, rechargeable zinc batteries. *M. Wang, N. Kotov*

3:50 MPPG 46. Bio-inspired controllable liquid transfer by topological asymmetric fibers. *H. Liu, L. Jiang*

SECTION B

*Boston Convention & Exhibition Center
Room 156A*

Future of Nanoscience, Nanotechnology & Beyond

P. Alivisatos, H. Atwater, J. M. Buriak, L. E. Fernandez, C. Toro, *Organizers*

P. S. Weiss, *Presiding*

1:00 Introductory Remarks.

1:05 MPPG 47. Opportunities for nanomaterials in storage applications: the importance of surfaces and interfaces. *E. Reichmanis, Y. Kwon, K. Minnick*

1:30 MPPG 48. Synthesizing renewable fuels and chemical feedstocks using nanomaterials. *E. Sargent*

1:55 MPPG 49. Ultrafast photoresponse of 2D materials. *A. Sood*

2:20 MPPG 50. Nanoelectronic tools for brain science. *C.M. Lieber*

2:45 MPPG 51. Reconfigurable plasmonics. *T.W. Odom*

3:10 MPPG 52. Towards predictable and deterministic synthesis of colloidal nanocrystals. *Y. Xia*

3:35 MPPG 53. Manipulating crystallization and assembly of nanomaterials via fluidic engineering. *Y. Li, Y. Chen, H. Wang, Y. Li*

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

MONDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Ballroom West*

The Kavli Foundation Emerging Leader in Chemistry Lecture

P. K. Dorhout, *Organizer, Presiding*

4:00 Introductory Remarks.

4:05 MPPG 54. Metal-ligand chemistry in nanoparticle synthesis and performance. *J. Millstone*

4:55 Q&A.

MPPG/AGFD

SECTION A

*Boston Convention & Exhibition Center
Ballroom West*

The Fred Kavli Innovations in Chemistry Lecture

P. K. Dorhout, *Organizer, Presiding*

5:15 Introductory Remarks.

5:20 MPPG 55. Light as fuel. *H. Atwater*

6:10 Concluding Remarks.

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 156B*

Nanophotonics

J. H. Hafner, N. J. Halas, P. J. Nordlander, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 MPPG 56. Plasmon enhanced photocatalysis.

P.J. Nordlander

9:05 Q&A.

9:10 MPPG 57. Elucidating plasmon resonances using quantum mechanical methods. *C.M. Aikens*

9:40 Q&A.

9:45 MPPG 58. Acousto-plasmonic interaction: From Fermi golden rule to Raman energy density. *N. Large*

10:15 Q&A.

10:20 MPPG 59. Nonlinear-like optics in liquid suspensions of two-dimensional nanomaterials. *J. Bao*

10:50 Q&A.

10:55 MPPG 60. Lattice plasmon laser modeling. *D. Wang, W. Wang, D.J. Trivedi, T.W. Odom, G.C. Schatz*

11:25 Q&A.

11:30 MPPG 61. Designer 2D metals and Weyl semimetals for zero-loss photonics. *P. Narang*

12:00 Q&A.

12:05 Closing Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 156A*

ACS Nano Lectureship Award

L. E. Fernandez, *Organizer*
P. S. Weiss, *Presiding*

8:30 Introductory Remarks.

8:40 MPPG 62. Metallic nanoislands on graphene as sensors for measuring cell stiffness and electrophysiology.

D.J. Lipomi

9:20 MPPG 63. Nano materials for skin-inspired electronics.

Z. Bao

10:00 MPPG 64. Ten years of liquid phase exfoliation: Making nanosheets for applications in energy, sensing and electronics. *J.N. Coleman*

10:40 MPPG 65. Investigation of etching behavior of single-walled carbon nanotubes using different etchants. *J. Zhang*

11:20 MPPG 66. The adventure with graphene: From science to industry. *Z. Liu*

12:00 Closing Remarks.

SECTION C

*Boston Convention & Exhibition Center
Room 103*

Nanoscience & Nanotechnology in Neuroscience & the BRAIN Initiative

A. M. Andrews, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 MPPG 67. Fabrication of aptamer field-effect transistor microprobes towards *In vivo* neurotransmitter detection. *C. Zhao, I. Huang, N. Nakatsuka, P.S. Weiss, H.G. Monbouquette, A.M. Andrews*

9:25 MPPG 68. Generation of a compact quantum dot conjugate for single molecule imaging of dopamine transporters in acute brain slices. *L.B. Thal, V.R. Mann, D. Sprinzen, B.E. Cohen, D.G. McMahon, S.J. Rosenthal*

9:45 MPPG 69. Chemistries to repurpose Feraheme as multifunctional nanoparticles for cell labeling. *H. Yuan, M.Q. Wilks, B. Cortese, A. Jones, G. El Fakhri, L. Josephson, M.D. Normandin*

10:05 Intermission.

10:20 MPPG 70. Mechanistic investigations of stem-loop aptamer field-effect transistors. *N. Nakatsuka, K. Yang, K.M. Cheung, J.M. Abendroth, X. Xu, C. Zhao, P.S. Weiss, M. Stojanovic, A.M. Andrews*

10:40 MPPG 71. Antibody recruiting polymers as a tumor immunotherapeutic targeting strategy. *A. Rullo*

SECTION D

*Boston Convention & Exhibition Center
Room 109B*

Nano in Tissue Engineering

A. Khademhosseini, M. Stevens, *Organizers*
S. Shin, *Presiding*

9:00 Introductory Remarks.

9:10 MPPG 72. Nanomedicine in a world of immunotherapy. *S. Sengupta*

9:40 MPPG 73. Tools for accelerated medical innovation. *J. Karp*

10:10 MPPG 74. Molecular programming with DNA/RNA. *P.L. Yin*

10:40 MPPG 75. From energy harvesting to living plants - Concepts in biosensing and energy conversion using carbon nanomaterials. *M. Strano*

11:10 Concluding Remarks.

Recent Developments in the Protection of Nanotechnology-Related Intellectual Property

Sponsored by CHAL, Cosponsored by MPPG

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 156B*

Patterson-Crane Award Symposium

S. Trohalaki, P. S. Weiss, *Organizers, Presiding*

1:00 Introductory Remarks.

1:10 MPPG 76. Communicating opportunities in nanoscience and nanotechnology. *P.S. Weiss*

1:45 Discussion.

1:50 MPPG 77. What does an ACS editor do, in 2018? Much more than 'just' editing. *J.M. Buriak*

2:25 Discussion.

2:30 MPPG 78. Treating molecular nanotechnology to show and tell. *J.F. Stoddart*

3:05 Discussion.

3:10 MPPG 79. Communicating science, especially nanoscience, to and from the federal government: A personal perspective. *L.J. Whitman*

3:45 Discussion.

3:50 MPPG 80. Telling stories. *G.M. Whitesides*

4:25 Discussion.

4:30 Closing Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 156A*

Nanophotonics

J. H. Hafner, N. J. Halas, P. J. Nordlander, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 MPPG 81. Understanding the mechanism of plasmonic photocatalysis with ultrafast surface-enhanced Raman spectroscopy. *E.L. Keller, J.L. Brooks, R.R. Frontiera*

1:35 Q&A.

1:40 MPPG 82. Strong coupling between single quantum dots and plasmon resonances: From Fano interference to Rabi splitting. *M. Pelton*

2:10 Q&A.

2:15 MPPG 83. Anisotropic plasmonic light scattering. *J. Wang*

2:45 Q&A.

2:50 MPPG 84. Single molecule imaging using atomistic near-field tip-enhanced Raman spectroscopy. *L. Jensen*

3:20 Q&A.

3:25 MPPG 85. Coherent plasmon dynamics from ultrafast correlated light and electron microscopy (UCLEM). *K.L. Knappenberger*

3:55 Q&A.

4:00 MPPG 86. Carrier dynamics in plasmonic nanostructures. *S. Link*

4:30 Q&A.

4:35 Closing Remarks.

SECTION C

*Boston Convention & Exhibition Center
Room 103*

The Role of the Chemical Sciences in Brain Research & the BRAIN Initiative

Cosponsored by PRES

A. C. Collins, M. M. Kirchoff, *Organizers*
J. V. Sweedler, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 MPPG 87. Nanoscience and nanotechnology and the NIH BRAIN Initiative. *W. Koroshetz*

2:05 MPPG 88. Electrophysiology: Unplugged. Using chemistry to watch the brain in action. *E. Miller*

2:35 MPPG 89. The single cell chemical characterization of the cells in the brain. *J.V. Sweedler*

3:05 Intermission.

3:15 MPPG 90. Novel perspectives on psychiatric diseases with microengineered, electrochemical detection platforms. *P. Hashemi*

3:45 MPPG 91. Transcriptome variability and theories of phenotype - Multimodal subcellular genomics. *J. Eberwome, J. Kim*

4:15 MPPG 92. Neuron-like electronics: A new paradigm for noninvasive brain probes. *C.M. Lieber*

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 156B*

Nanophotonics

J. H. Hafner, N. J. Halas, P. J. Nordlander, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 MPPG 93. Unusual molecular vibrational excitation induced by gap-plasmons. *Z. Kim*

9:05 Q&A.

9:10 MPPG 94. Surface plasmon-mediated chemical vapor deposition of palladium nanoparticles for photothermal catalysis. *W. Wei*

9:40 Q&A.

9:45 MPPG 95. Spatial and temporal coherence of ultrafast plasmon nanolasers. *T.W. Odom*

10:15 Q&A.

10:20 MPPG 96. Optimizing the hybridization between localized surface plasmons and photonic cavity modes in a photothermal absorption spectrometer. *D.J. Masiello*

10:50 Q&A.

10:55 MPPG 97. *In Situ* spectroscopy of photocatalytic and plasmon resonant nanostructures. *S. Cronin*

11:25 Q&A.

11:30 MPPG 98. Mini gold nanorods and their plasmonic properties. *C.J. Murphy*

12:00 Q&A.

12:05 Closing Remarks.

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 156B*

Nanophotonics

J. H. Hafner, N. J. Halas, P. J. Nordlander, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 MPPG 99. Time-dependent electronic structure methods for plasmon-molecule interactions. *A.E. DePrince*

1:35 Q&A.

1:40 MPPG 100. Single nanoelectrode photodissolution. *C.F. Landes, S. Link*

2:10 Q&A.

2:15 MPPG 101. Antenna-reactor complexes for plasmonic photocatalysis. *N.J. Halas*

2:45 Q&A.

2:50 MPPG 102. Nanophotonic approaches to observe and control atomic and molecular processes. *J. Dionne*

3:20 Q&A.

3:25 MPPG 103. Quantifying plasmonic field enhancement and ultrasensitive displacement sensing by plasmonic nanogap. *H. Xu*

3:55 Q&A.

4:00 Closing Remarks.

THURSDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 156B

New Advances in 3D Nanoprinting

Financially supported by Gordon & Betty Moore Foundation
A. Khademhosseini, Organizer
G. Liu, Organizer, Presiding
J. Belak, Presiding

8:30 Introductory Remarks.

8:40 **MPPG 104.** Quantification of particle concentrations in ultra-pure liquid samples. **J. Nadeau, M. Bedrossian, C. Lindensmith, C. Barr**

9:05 Discussion.

9:10 **MPPG 105.** Three-dimensional nanoprinting using continuous assembly of polymers via ring-opening metathesis polymerisation. **T. Pattison, G. Liu**

9:25 Discussion.

9:30 **MPPG 106.** Development of methods for hierarchical self-assembly at the nanoscale. **C.L. Berrie, S.B. Ulapane, N.J. Kamathewatta, A.K. Borkowski, S. Steuart**

9:55 Discussion.

10:00 Intermission.

10:15 **MPPG 107.** Fast and smart atomic force microscopy for 3D nanoprinting. **D. Hanna**

10:40 Discussion.

10:45 **MPPG 108.** New algorithm to enable construction and display of 3D structures from scanning probe microscopy images acquired layer-by-layer. **S. Wang, G. Liu**

11:00 Discussion.

11:05 **MPPG 109.** Pinpoint additive manufacturing of complex 3D micro structures of pure metal. **P. Doerig**

11:30 Discussion.

11:35 **MPPG 110.** Recreating human physiology on a chip: A tale of microreactors, 3D printed tissues and real-time biosensors. **A. Khademhosseini**

12:00 Discussion.

12:05 Closing Remarks.

THURSDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 159

New Advances in 3D Nanoprinting

Financially supported by Gordon & Betty Moore Foundation
G. Liu, Organizer
A. Khademhosseini, Organizer, Presiding
C. L. Berrie, Presiding

1:00 Introductory Remarks.

1:10 **MPPG 111.** Nanoscale light-based 3D bioprinting: An enabling technology for regenerative medicine. **S. Chen**

1:35 Discussion.

1:40 **MPPG 112.** 3D nanoprinting of star polymers. **J. Zhang, V.A. Piunova, A. Tek, Y. Liu, J. Frommer, J. Sly, G. Liu**

1:55 Discussion.

2:00 **MPPG 113.** The extension and application of the exoscale additive manufacturing tools to 3D nanoprinting. **J. Belak, J. Turner, C. Bronkhorst**

2:25 Discussion.

2:30 Intermission.

2:45 **MPPG 114.** Additive manufacturing and architected materials: From the nanoscale to the macroscale. **C. Spadaccini**

3:10 Discussion.

3:15 **MPPG 115.** Regio-selective and density-controlled activation of interfacial mechanophores for fabrication of complex structures. **A. Sulkanen, J. Sung, M.J. Robb, J. Moore, N.R. Sottos, G. Liu**

3:30 Discussion.

3:35 **MPPG 116.** Gold nanorods and cells in 3D. **C.J. Murphy**

4:00 Discussion.

4:05 **MPPG 117.** Investigating the properties of nanostructured surfaces by second order nonlinear spectroscopy. **N. Ge**

4:30 Discussion.

4:35 Closing Remarks.

AGFD

Division of Agricultural and Food Chemistry

X. Fan, Program Chair

OTHER SYMPOSIA OF INTEREST:

Ask Dr. Safety: Safety Considerations in the Cannabis Industry (see CHAS, Sun)

Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices (see AGRO, Mon, Wed)

Agricultural Based Natural Products as Biorational Pesticides (see AGRO, Tue, Wed)

Chiral Agrochemicals: Analytical Advances & Regulatory Trends (see AGRO, Tue, Wed)

SOCIAL EVENTS:

Awards Banquet, 5:30 PM: Tue

BUSINESS MEETINGS:

Business Meeting, 12:15 PM: Tue

SUNDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 107B

Functional Foods

Their Novel Biofunctions & Underlying Mechanisms

Cosponsored by AGRO

Financially supported by Japanese Society for Food Factors
D. Hou, A. Murakami, J. Terao, Organizers, Presiding

8:00 Introductory Remarks.

8:05 **AGFD 1.** Potato peels: Chemistry, health benefits, and functional properties in human foods and animal feeds. **M. Friedman**

8:25 **AGFD 2.** Management of lung disease by tomato, lycopene. **A. Koichi**

8:45 **AGFD 3.** Effects of ginger extract on TMAO-induced atherogenesis. **Z. He, Z. Chen**

9:05 **AGFD 4.** Curcumin as a functional food-derived factor: Highly dispersible and bioavailable curcumin but not native curcumin effectively induces brown-like adipocyte formation in mice. **T. Tsuda**

9:25 **AGFD 5.** Prebiotics and antibiotics affect isoflavone metabolism and bone loss. **M. Uehara, S. Fujii, H. Inoue, R. Katsumata-Tsuboi, N. Takahashi**

9:45 Intermission.

10:00 **AGFD 6.** Hormesis: Adaptive responses in biology and medicine with applications to the emerging field of functional foods. **E.J. Calabrese**

10:20 **AGFD 7.** Stress-mediated mechanisms underlying bioactivities of phytochemicals. **A. Murakami, A. Ishisaka, S. Tanioka, R. Sugimoto, M. Fujimoto**

10:40 **AGFD 8.** The interaction between brain activation and peripheral physiological alteration following ingestion of flavan 3-ols. **N. Osakabe**

11:00 **AGFD 9.** Gastrointestinal health and functional foods. **C. Wang**

11:20 **AGFD 10.** Flavonoids enhance *in vitro* anti-inflammatory activity of bifidobacteria by inducing the secretion of a small active molecule. **K. Kawabata, N. Baba, T. Sakano, Y. Hamano, S. Taira, A. Tamura, S. Baba, M. Natsume, T. Ishii, S. Murakami, H. Ohgishi**

SECTION B

Boston Convention & Exhibition Center
Room 107C

MCPD & Glycidyl Fatty Acid Esters

M. Granvogl, S. MacMahon, Organizers, Presiding

8:00 Introductory Remarks.

8:05 **AGFD 11.** Current research at the U.S. Food and Drug Administration related to the analysis of MCPD and glycidyl esters in refined oils and processed foods. **J.K. Beekman, K. Grassi, S. MacMahon, J. Kuhlmann, A. Becalski, G. Jaudzems, F. Robert**

8:35 **AGFD 12.** Detection limits and challenges in low level analysis of MCPD and glycidol using AOCs method Cd 29c-13. **K.J. Adlaf, M. Collison**

9:05 **AGFD 13.** Determination of the food-borne contaminants 3-MCPD, 2-MCPD and glycidol in compound foods based on a new extraction approach and GC-MS measurement. **J. Kuhlmann**

9:35 **AGFD 14.** MCPD in fried and smoked fishery products. **J. Fritsche, S. Merkle, U. Ostermeyer**

10:05 Intermission.

10:20 **AGFD 15.** MCPD and glycidyl fatty acid esters: Molecular mechanisms of toxicity and new human exposure marker for biomonitoring. **A. Braeuning, T. Buhrke, K. Schultrich, B. Monien, K. Abraham, A. Lampen**

10:50 **AGFD 16.** Absorption and metabolism of 3 MCPD 1 monopalmitate after oral administration in rats. **B. Gao, M. Liu, G. Huang, J. Liu, L.L. Yu**

11:20 **AGFD 17.** MCPD and GE: Bridging toxicological risk assessment and regulatory management. **P. Hanlon**

SECTION C

Boston Convention & Exhibition Center
Room 108

Bioactives & Neurodegenerative Diseases

Cosponsored by MEDI

H. Ma, N. P. Seeram, Organizers, Presiding

8:00 Introductory Remarks.

8:10 **AGFD 18.** Epigenetic modulation of inflammation and synaptic plasticity promotes resilience against stress in mice. **J. Wang, G. Pasinetti**

8:50 **AGFD 19.** Surface plasmon resonance and related biophysical techniques for the studies of amyloid peptide and protein aggregation and the inhibition of aggregation by natural products. **X. Wang, H. Li, H. Ma, N.P. Seeram, F. Zhou**

9:30 Intermission.

9:45 **AGFD 20.** Olive-derived oleocanthal as a novel natural product to restore brain function in AD mouse models. **A. Kaddoumi**

10:25 **AGFD 21.** Berry polyphenols are associated with enhanced cognition and reduced inflammation in healthy, older adults. **B. Shukitt-Hale, M.G. Miller, D.R. Fisher, D.F. Bielinski, T.M. Scott**

11:05 Concluding Remarks.

SECTION D

Boston Convention & Exhibition Center
Room 109A

Health Promoting Food Ingredients

A. M. Rimando, Organizer

C. Osorio Roa, Organizer, Presiding

8:00 Introductory Remarks.

8:05 **AGFD 22.** Polyphenols: The source of bioactives in plant foods for heart disease protection. **J.A. Vinson**

8:30 **AGFD 23.** Soluble and insoluble-bound food phenolics and phenolic derivatives. **F. Shahidi, J. Yeo**

8:55 **AGFD 24.** Berry fruit differentially improves age-related decrements in behavior based on baseline status. **B. Shukitt-Hale, M.G. Miller, D.F. Bielinski, D.R. Fisher**

9:20 **AGFD 25.** Dietary polyphenols retard acrolein exposure in *in vivo* studies. **Y. Zhu, Q. Huang, L. Lv, S. Sang**

9:45 Intermission.

9:55 **AGFD 26.** The impact of polyphenol rich food on bacterially derived metabolites. **C.O. Chen**

10:20 **AGFD 27.** Gut microbiota-mediated biotransformation of food components: The key for their biological functions. **Z. Li, F. Li, Q. Wang, H. Xiao**

10:45 **AGFD 28.** The effect of gut microbiota fermentation on cocoa powders receiving various treatments. **J.W. Finley, Z. Li, M. Janes**

11:10 **AGFD 29.** Microbiota diversity in an *in vitro* system digestion with different processed cocoa powders. **M. Janes, M. Escoto, J. Brandao, Z. Li, J.W. Finley**

11:35 **AGFD 30.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

11:55 **AGFD 31.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

12:15 **AGFD 32.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

12:35 **AGFD 33.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

12:55 **AGFD 34.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

1:15 **AGFD 35.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

1:35 **AGFD 36.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

1:55 **AGFD 37.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

2:15 **AGFD 38.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

2:35 **AGFD 39.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

2:55 **AGFD 40.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

3:15 **AGFD 41.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

3:35 **AGFD 42.** The use of meat extenders (white button mushrooms vs textured soy) in beef patties for to improve health. **A.J. Kinchla**

Functional Foods**Their Novel Biofunctions & Underlying Mechanisms**

Cosponsored by AGRO

Financially supported by Japanese Society for Food Factors

D. Hou, A. Murakami, J. Terao, *Organizers, Presiding***1:00** Introductory Remarks.**1:05 AGFD 31.** Anti-thrombotic effect of garlic attributes inhibition of platelet function and coagulation pathway by allyl sulfide. *T. Seki, T. Hosono, Y. Ozaki-Masuzawa***1:25 AGFD 32.** Involvement of the phosphatidylinositol 3-kinase pathway in the resistant mechanisms against benzyl isothiocyanate in human colorectal cancer cells. *Y. Nakamura***1:45 AGFD 33.** New molecular target, calcium-sensing receptor (CaSR) toward to improving gastrointestinal health. *Y. Mine***2:05 AGFD 34.** The preventive effects and molecular mechanisms of berry polyphenols in experimental nonalcoholic steatohepatitis (NASH). *D. Hou***2:25 AGFD 35.** Biological activity of carotenoids and their metabolites. *X. Wang***2:45** Intermission.**3:00 AGFD 36.** The impact of activating almonds on D-myoinositol phosphate and mineral bioavailability. *A.E. Mitchell, L. Lee***3:20 AGFD 37.** Anti-inflammatory mechanisms of dietary flavonoids linked with phase-II conjugation and macrophage-mediated metabolic conversions. *Y. Kawai***3:40 AGFD 38.** Incorporation of protein arrays into functional food research. *R. Huang, H. Zhang, W. Huang, V.S. Jones, Y. Mao, J. Wilson***4:00 AGFD 39.** Metabolic innovations for functional foods integrating redox biology and microbiome-induced bioprocessing. *K. Shetty***4:20 AGFD 40.** Hazards in foods: Natural antimicrobials to control foodborne pathogens. *S. Garcia, N. Heredia***4:40** Concluding Remarks.**SECTION B***Boston Convention & Exhibition Center Room 107C***MCPD & Glycidyl Fatty Acid Esters**M. Granvogel, S. MacMahon, *Organizers, Presiding***1:00** Introductory Remarks.**1:05 AGFD 41.** Stability of food contaminants 3-MCPD, 2-MCPD- and glycidyl fatty acid esters in different foods during long-term storage. *J. Kuhlmann***1:35 AGFD 42.** Occurrence of MCPD and glycidyl esters in human breast milk. *B. Belkova***2:05 AGFD 43.** Influence of industrial process on 3-MCPD esters and glycidyl esters in finished products. *M. Le Breton, G. Jaudzems, F. Robert***2:35** Intermission.**2:50 AGFD 44.** Results of experiments to reduce MCPD and glycidyl esters in edible fats and oils by ionic liquid treatment. *F. Pudel, J. Heymann, B. Matthäus, K. Vosmann***3:20 AGFD 45.** Organochlorines as the most significant precursors of 3-MCPD esters in Palm Oil: Investigation into their occurrence in a range of vegetable oils, structures and mechanism of formation. *S. Tiang, N. Saporin, A. Nair, I. Berg, H. de Vette, M. Putri Ahmad Sabri, H. Teh, T. Ng, D. Adan, M. bin Md. Zain, B. Neoh, A. Md Noor, O. Lai, C. Tan, D. Appleton***3:50 AGFD 46.** Effect of double washing of bleached palm oil on the formation of 3-MCPD, 2-MCPD and glycidyl esters. *W.C. Silva, A.P. Arisseto, K.A. Sampaio, R.A. Ferrari, E. Vicente***4:20 AGFD 47.** MCPD - public health implications. *R. Clemens, P. Pressman***SECTION C***Boston Convention & Exhibition Center Room 108***Bioactives & Neurodegenerative Diseases**

Cosponsored by MEDI

H. Ma, N. P. Seeram, *Organizers, Presiding***1:00** Introductory Remarks.**1:05 AGFD 48.** In vivo neuroprotective effects of *Cannabis* spp. bioactives in *C. elegans* and *D. melanogaster*. *H. Park, M. Homan, D. Vattem***1:45 AGFD 49.** Development of a general amyloid inhibitor against the aggregation and toxicity of both amyloid- β and hIAPP. *J. Zheng***2:25** Intermission.**2:40 AGFD 50.** Neuroprotective effects of *Mucuna pruriens* seed extract against Parkinson's disease in microglia and neuroblastoma cells, *Caenorhabditis elegans*, and *Drosophila melanogaster*. *S. Johnson, H. Park, N. DaSilva, D. Vattem, H. Ma, N.P. Seeram***3:20 AGFD 51.** The ability of berries to mitigate the effects of high fat diet on brain and behavior. *A. Carey***4:00** Concluding Remarks.**SECTION D***Boston Convention & Exhibition Center Room 109A***Health Promoting Food Ingredients**C. Osorio Roa, *Organizer*A. M. Rimando, *Organizer, Presiding***1:00** Introductory Remarks.**1:05 AGFD 52.** Understanding bioactives in food through the analysis of human milk. *C.B. Lebrilla***1:30 AGFD 53.** Pomegranate fruit juice, dietary supplements and extracts rich in ellagitannins also provide a significant content of a wide range of proanthocyanidins. *F. Tomas-Barberan, H. Diaz-Mula, R. Garcia-Villalba***1:55 AGFD 54.** Avenanthramides from commercial oat bran in the United States. *Y. Tang, W. Wu, J. Yang, E. Idehen, S. Sang***2:20 AGFD 55.** LC-ESI-MS characterization of the components of four varieties of blackcurrants (*Ribes nigrum*), grown in Illinois and Wisconsin after water-based sonication extraction and their inhibitory effects on α -amylase. *R.E. Cortez, M.A. Berhow, E.G. Demejia***2:45** Intermission.**2:55 AGFD 56.** Combination effects and molecular targets of apple peel powder and selected bioactive compounds on antiproliferative activity in human breast cancer cells in vitro. *R.H. Liu***3:20 AGFD 57.** Food bioactives that can extend lifespan in *Caenorhabditis elegans*. *Y. Park, P. Shen, Y. Yue, Y. Peng, Y. Xu, K. Kim***3:45 AGFD 58.** Dietary intake of mildly oxidized fat increases colonic inflammation and colitis-associated colon tumorigenesis through activation of Toll-like receptor 4 (TLR4) signaling. *G. Zhang***4:10 AGFD 59.** Current evidence of beneficial effects of anthocyanins from colored corn in *in vitro* models of obesity and diabetes. *D.A. Luna, E.G. Demejia***4:35 AGFD 60.** *In vitro* bile acid binding capacities of selected vegetables to improve human health. *I. F.Y., G.K. Jayaprakasha, B. Patil***Moving the Safety Values of the ACS Forward**Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS¹, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB**Around the World with Pesticide Maximum Residue Levels**

Sponsored by AGRO, Cosponsored by AGFD

SUNDAY EVENING**SECTION A***Boston Convention & Exhibition Center Exhibit Hall B2/C***Chemistry, Flavor & Health Effects of Teas**

Cosponsored by AGRO

C. Ho, D. Li, X. Wan, Y. Wang, Z. Zhang, *Organizers***5:30 - 7:30****AGFD 61.** The CsRHMs encoding a UDP-rhamnose synthase is required for the development of cell wall. *X. Dai***AGFD 62.** Influence of media supplements on inhibition of oxidative browning and bacterial endophytes of *Camellia sinensis* var. *sinensis*. *S. Wei***AGFD 63.** Polyphenolic chemistry of tea. *S. Feng, Y. Wang, C. Ho***AGFD 64.** From leaf to tea: The impact of six typical processing methods on the tea chemical profiling. *Y. Wang, Z. Kan, T. Ling, J. Ning, D. Li, X. Wan***AGFD 65.** Extraction methods of volatile compounds isolated from dried Omija with different drying condition. *M. Park, S. Yang, M. Park, K.G. Lee***AGFD 66.** Formation of α -dicarbonyl compounds in caramel model system with different ammonium hydroxide concentration. *J. Kwon, S. Kim, K.G. Lee***AGFD 67.** Quantification of ascorbyl adducts of epigallocatechin gallate and galliccatechin gallate in bottled tea beverages. *W. Hung, S.S. Wang, S. Sang, X. Wan, Y. Wang, C. Ho***AGFD 68.** (-)-epigallocatechin-3-gallate enhances cytotoxic effect of melatonin in cancer cells with diverged p21 response to melatonin. *J. Zhang, C. Yang, L. Zhang***AGFD 69.** Potential role of tea consumption on circadian rhythm. *M. Qing, C. Ho***AGFD 70.** Anti-Parkinsonian effects of β -amyryn of tea seed oil from *Camellia tenuifolia* in *Caenorhabditis elegans*. *C. Wei, C. Ho, V. Liao***AGFD 71.** Phytochemical profiles and antioxidant, antiproliferative and anti-inflammatory activities in sea buckthorn leaf. *R. Guo, X. Guo, R.H. Liu, C. Ho***AGFD 72.** Suppression of cancer cell growth and migration by regulating Met/EGFR/VEGFR-Akt/NF- κ B pathways with theanine and its derivatives. *G. Zhang, Y. Zhang, S. Zhou, B. Wu, X. Wan***SECTION A***Boston Convention & Exhibition Center Exhibit Hall B2/C***Diet, Health & Gut Microbiome**

Cosponsored by AGRO, BIOL, CARB and CELL

I. Edirisinghe, C. Lai, L. Liu, S. Sang, F. Tomas-Barberan, L. L. Yu, *Organizers***5:30 - 7:30****AGFD 73.** *Enterococcus faecalis* FK-23 may improve the bactericidal activity of human neutrophil via enhancing ROS production and phagocytosis. *H. Ichikawa, K. Kobayashi, Y. Minamiyama***AGFD 74.** Properties of Shikwasa (*Citrus depressa*) juice to improve lipid metabolism. *R. Takeda, M. Matayoshi, A. Sawabe***AGFD 75.** Impact of dietary fiber from sweet potato fermented *in vitro* on the diversity of gut microbiota. *X. Li, J. Tian, M. Liu***AGFD 76.** Assembly of mock microbial community for testing engineered microorganisms persistence and function. *S. Arcidiacono, L.A. Doherty, J. Whitman, J.W. Soares***AGFD 77.** Development of an *in vitro* fermentation model of the small intestine. *L.A. Doherty, J. Whitman, S. Arcidiacono, K.R. Conca, J.W. Soares***AGFD 78.** Choline kinase is a drug a target for *Staphylococcus aureus*. *T. Zimmerman, S. Ibrahim***SECTION A***Boston Convention & Exhibition Center Exhibit Hall B2/C***General Posters**X. Fan, *Organizer***5:30 - 7:30****AGFD 79.** Fabrication and *in vitro* study of vitamin D nano-delivery system using Caco-2 cells: Applications in food and health. *N. Walia, L. Chen***AGFD 80.** Effect of quercetin on the inhibition of CYR61-mediated multidrug resistance in human adenocarcinoma AGS cells. *S.K. Cho***AGFD 81.** Influence of storage temperature and duration on lipid oxidation in frozen dough. *W. Zhao, J. Xu, X. Xu***AGFD 82.** Anthocyanin in purple carrot (*Daucus carota* L.): Their structures and effect for blood flow. *A. Tsutsumi, Y. Horikoshi, A. Saito, R. Koizumi, Q. Hu, A. Koichi, N. Osakabe***AGFD 83.** Stress response in hypothalamic paraventricular nucleus (PVN) after a single dose of procyranid supplementation. *Y. Fujii, S. Kenta, H. Yahiro, K. Ai, N. Osakabe***AGFD 84.** Fingerprinting white wines with excitation-emission matrix fluorescence. *J.F. Hauri, B.K. Niece***AGFD 85.** Investigation of phenolic phytochemicals in Maine-grown plums. *H. Hwang, R. Fort, R. Moran, A. Myracle, B.W. Cole***AGFD 86.** Determination of key volatile compounds related to sensory quality of *Doenjang*, a fermented soybean paste, using non-targeted and descriptive analyses. *S.A. Kim, Y. Kim, I. Cho, S. Lee***AGFD 87.** Discoloration preventive agents of food and anti-aging effects of the constituents in the seed of *Foeniculum vulgare*. *A. Yamashita, A. Sawabe***AGFD 88.** Optimization by response surface methodology of phenolic compounds extraction from chaga (*Inonotus obliquus*) using accelerated solvent extraction. *W. Alhalla, B. Perkins***AGFD 89.** Two main foliar diseases caused by *Colletotrichum* and *Pestalotiopsis*-like species on *Camellia sinensis* in China. *Y. Chen, H. Tong***AGFD 90.** Establishment of a system for screening food factors inhibiting the absorption of Cs in intestine. *M. Yasuda-Torii, C. Tokuyama, Y. Kobayashi, S. Shitasue, S. Karaki, K. Shimoi*

AGFD 91. Effect on the quality of raisin dried with cold atmospheric plasma pretreatment: Microstructure, total phenolic content, antioxidant activity, and color. *F. Chang, Y. Ting, J. Wu*

AGFD 92. Effect of cooking on antioxidant activity of the pea (*Pisum sativum* L.) cultivar with purple pods. *M. Hemori-Kondo*

AGFD 93. Chemical constituents and antimalarial activity of essential oils extracted from the stem, root and fruit peel of *Citrus paradisi* grown in Nigeria. *O.E. Ogunjinmi, N.O. Oloware, A. Aliyu*

AGFD 94. Changes in flatus producing oligosaccharides in pulses cooked with various heating technologies and cooking solutions. *E.M. Abdelaal, S. Ragaee, I. Rabalski, Y. Liu*

AGFD 95. Preparative separation of mono- and diiodinated fluoresceins from synthetic mixtures by pH-zone-refining countercurrent chromatography. *R.A. Lazo Portugal, A. Weisz*

AGFD 96. Transformation of silica nanoparticles in response to food processing conditions and its effect on protein-nanoparticle interactions. *W.H. Phue, S. George*

AGFD 97. Intrinsic luminescent probes as sensors to monitor structural properties and solvation in biodegradable films. *L.A. Colaruotolo, C. Gonzalez Martínez, R. Bueno Lopez, H. Ball, R. Enfield, M. Corradini*

AGFD 98. Anti-aging effects of the constituents in the leaves of *Callicarpa dichotoma*. *A. Sawabe, S. Tagashira, A. Yamashita, R. Takeda, A. Iida*

AGFD 99. Analysis of the relationship between Interleukin-1 β , body mass index and body fat. *N.O. Flynn, K. Mosher*

AGFD 100. ATR-FTIR analysis of beer. *A. Campanella, M.D. Mosher*

AGFD 101. Starch and protein functional properties of whole pulse flours affected by germination of navy beans, pinto beans and lentils. *M. Singh, J. Byars, M. Hojilla Evangelista*

AGFD 102. Evaluation of estrogenic activity of the novel bisphenol-A alternative, four bisguaiacol-F compounds, by *in-vitro* bioassays. *Y. Peng, K. Reno, T.H. Epps, C. Wu*

AGFD 103. Analysis of antidiabetic constituents in *Ocimum* species. *A.M. Rimando, M.M. Nickles, C.F. Williams, S.R. Mentreddy, S. Mathews*

AGFD 104. Computational and experimental research on the mechanism of cis/trans isomerization of oleic acid. *J. Yin, S. Li, N. Cheng*

AGFD 105. Application and biological functionalization of biomass lignin for UV shielding. *S. Lee, J. Choi, K. Won*

AGFD 106. Characterization of off-taste compounds in potato fibers. *C. Dawid, T. Duggan, T. Hofmann*

AGFD 107. Atmospheric cold plasma treatment enhanced mung bean germination and level of γ -Aminobutyric acid (GABA). *Y. Chou, Y. Ting, K. Cheng, J. Wu*

AGFD 108. Cold plasma treatment caused surface etching increased the yield of ginsenosides extraction. *R. Wang, Y. Ting, J. Wu*

AGFD 109. Simple validated method for simultaneous determination of major type B trichothecenes and their 3- β -D-glucosides in the baby food and Korean rice wine by HPLC-UV detection and immunoaffinity cleanup. *S. Lee, S. Woo, S. Kim, H. Chun*

AGFD 110. Effects of cold atmospheric plasma processing on vitamin C and phenolic content of orange juice. *C. Chien, J. Wu, Y. Ting*

AGFD 111. Screening freshness of seafood by measuring trimethylamine (TMA) levels using Helium-Plasma Ionization mass spectrometry (HePI-MS). *I.S. Herath, T.E. O'Donnell, A.B. Attygalle*

AGFD 112. Effects of atmospheric plasma pretreatment on the chemical characteristic of grape surface and drying rates of raisins. *C. Huang, Y. Ting, J. Wu*

AGFD 113. Encapsulation of nobiletin in powdered nanoemulsion system: Enhanced storage stability and oral bioavailability. *G. Lin, Y. Ting*

AGFD 114. Softer texture and higher gamma-aminobutyric acid (GABA) content of germinated brown rice after treated by atmospheric non-thermal plasma. *P. Chou, K. Cheng, Y. Ting*

AGFD 115. Effect of high pressure processing on enzyme activity and related antioxidant attributes of aronia berry puree. *B. Yuan, M. Lu, M. Danao*

AGFD 116. Effects of phenylalanine concentration and cultivation time on the formation of styrene and volatile compounds by *Penicillium expansum*. *H. Kim, M. Kim, J. Seo, Y. Kim*

AGFD 117. Metabolomic analysis for the metabolites of estrogenic pesticides with liver S9 fractions as *in vitro* hepatic model. *J. Auh, G. Kim, H. Lee*

AGFD 118. Regional variations in essential oils components, antioxidant capacities, and antifungal activities of *Piper nigrum* L in China. *C. Zhang, M. Liu, J. Tian*

AGFD 119. Encapsulating curcumin into bilayer nanoparticle by coaxial electrospraying. *S. Tsai, Y. Ting, J. Wu*

AGFD 120. Quality evaluation of crustaceans using chemical analyses due to their freshness. *D. Hong, E. Jung, S. Kim, S. Kim, Y. Lee*

AGFD 121. Increasing ω -3 fatty acid, α -tocopherol and acetic acid contents in fresh lamb by feeing entrapped fish oil, DL- α -tocopheryl acetate and L-acetic acid in a chemically treated protein matrix. *C. Jeanjulien, J. Lee, S. Wildeus, A. Discua, D. Kafle*

AGFD 122. Chemistry of, and attitudes toward, artisanal food. *C.T. Cirne, M.H. Tunick, R.E. Trout*

AGFD 123. Inhibition of *Streptococcus* and *Enterococcus* biofilms by cranberry bioactives. *R. Magina, G. O'Brien, F.J. Scarano, C.C. Neto*

AGFD 124. The role of heat treatment on the chemistry of light oxidation flavor in fluid milk. *W. Harwood, B. Carter, A. Schiano, M. Drake*

AGFD 125. Changes in peracetic acid based sanitizer systems under the influence of different storage temperatures and organic load. *T. Ghostlaw, F. Martens, W. Autio, M. Corradini, A.J. Kinchla*

AGFD 126. Assessing the stability of glucoraphanin [by measurement of sulforaphane] in model food systems supplemented with broccoli powder. *K. Kensil, K.R. Conca, T. Ndoou, S. Fales*

AGFD 127. Trends of decreasing amino acids in food formulations with varying sugar and fat levels after storage and *in-vitro* digestion. *K.R. Conca, K. Kensil*

AGFD 128. Neuronal protection effects of blueberries. *P. Samani, R. Pacheco, S. Cai*

AGFD 129. Total carbohydrate composition of different molecular weight fractions in red wine. *L. Ring, E. Tomasino, J. Osborne, M.C. Qian*

AGFD 130. Application of high-pressure processing for effective utilization of insoluble polymeric compounds in soy sauce lees. *Y. Murabayashi, Y. Watanabe*

AGFD 131. Browning inhibition of fresh-cut "Granny Smith" apples and *Listeria monocytogenes* inactivation by the combinations of citric acid, ascorbic acid and acetylcysteine. *X. Fan, K. Sokorai*

AGFD 132. Comparison of α -tocopherol levels in local Pennsylvania wheat flour and commodity wheat flour. *E. Pollock, J. Trout, R. Trout*

AGFD 133. Pectin and whey protein concentrate minimizes the generation of acid whey in Greek style yogurt. *R. Gyawali, T. Zimmerman, H. Calleran, S. Ibrahim*

AGFD 134. Impact of hydrocolloids on the water holding capacity of Greek style yogurt. *S. Ibrahim, R. Gyawali, T. Zimmerman*

AGFD 135. Metabolite profiling of *Candidatus* Liberibacter infection in Hamlin sweet oranges. *W. Hung, Y. Wang*

AGFD 136. Cyclodextrin effects on potato polyphenol oxidase-catalyzed reactions. *S. Jiang, M.H. Penner*

AGFD 137. Research on age discrimination of Zhenjiang aromatic vinegar based on odour active compounds. *Z. Sun*

AGFD 138. Reinforcement of carrageenan graft gallic acid with micro-fibrillated cellulose. *S. Lakshmi Balasubramaniam, B. Nayak*

AGFD 139. Development of simultaneous multiresidue analysis for 395 pesticides in soybean using gas chromatography-tandem mass spectrometry. *Y. Shin, J. Lee, J. Lee, J. Lee, B. Kim, M. Rehan, J. Kim*

AGFD 140. Examining the effects of microfluidization on the physicochemical and coagulation properties of bovine milk. *A.J. Bucci, D.L. Van Hekken, M.H. Tunick, J.A. Renye, P. Tomasula*

AGFD 141. Stereochemical and thermodynamic analysis of functionalized chocolate molecules and their derivatives: Applications in food and molecular chemistry. *R. Kyung, J. Song*

AGFD 142. Phytochemical analysis of *Spermacoce remota* Lam, in search of understanding its phytochemical and ethno-pharmaceutical properties. *G. Cruz Ruiz*

AGFD 143. Comparison of physicochemical and proximate properties of crude rice bran and processed rice (*Oryza sativa*) oils. *S.A. Aderibigbe*

AGFD 144. The antioxidant activity of cold brew coffee. *M. Fuller, N.Z. Rao*

AGFD 145. Wheatscan – unraveling the causes for wheat sensitivity. *D. Pronin, K. Scherf*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Value-Added Derivatives from Agro-Based Raw Materials

Cosponsored by POLY
M. Appell, A. Biswas, H. Cheng, *Organizers*
5:30 – 7:30

AGFD 146. Free radical scavenging and anti-inflammatory capacities of cold-pressed seed flour extracts. *U. Choe, Y. Li, B. Gao, L. Yu, T.T. Wang, J. Sun, P. Chen, L.L. Yu*

AGFD 147. Combining acid hydrolysis and alpha-amylase digestion for the production of porous potato starch. *A. Gonzalez, Y. Wang*

AGFD 148. High-viscosity and healthy polysaccharides as an industrial by-product from citrus segment membrane. *J. Chen, X. Ye, R.J. Linhardt*

AGFD 149. Microwave assisted technology for the value added textiles. *S. Chang, B.D. Condon, J. Smith*

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 107B

Chemistry, Flavor & Health Effects of Teas Chemistry

Cosponsored by AGRO
C. Ho, D. Li, Y. Wang, Z. Zhang, *Organizers*
X. Wan, *Organizer, Presiding*
C. Ho, *Presiding*
8:00 Introductory Remarks.

8:05 AGFD 150. Progress in tea chemistry from natural products approach. *G. Bao, W. Wang, X. Li, J. Ke*

8:30 AGFD 151. The complexity of the metabolism of tea polyphenols. *S. Sang*

8:55 AGFD 152. Tea is a dietary source of ellagitannins more relevant than previously thought. *X. Yang, C.J. Garcia, A.M. Blazquez, F. Tomas-Barberan*

9:20 Intermission.

9:40 AGFD 153. Plant resources, chemistry and bioactivities of several wild tea plants in China. *Y. Zhang, X. Meng, H. Zhu, D. Wang, C. Yang*

10:00 AGFD 154. Characterization of Zijuan green tea metabolites: Comparison against Yunkang10 green tea by a non-targeted metabolomics approach. *M. Li, H. Guo, D. Li, Z. Xie*

10:20 AGFD 155. Triterpenoid saponins from the genus *Camellia*: Structures, biological activities, molecular simulation for structure-activity relationship. *C. Cui*

10:40 AGFD 156. Bifunctional properties of tea catechins: Mechanism of actions on antioxidation and anti-reactive carbonyl species. *C. Ho*

SECTION B

Boston Convention & Exhibition Center
Room 107C

Structure & Assembly of Food Biopolymers

Cosponsored by POLY
Q. Huang, *Organizer, Presiding*
W. Jin, Y. Ting, Q. Wang, *Presiding*
8:00 Introductory Remarks.

8:05 AGFD 157. Characterization of zein-oleic acid assemblies by ultra-small angle X-ray scattering. *G. Padua, S. Uzun*

8:35 AGFD 158. Casein studied by X-ray and neutron scattering. *G. Smith, E. Brok, G. Jensen, S. Midtgaard, N. Skar-Gislunge, L. Arleth*

9:05 AGFD 159. Mechanistic understanding of the formation of edible spherical and tubular nanoparticles: Insights of the thermodynamics of interaction. *L.F. Maldonado, S. Chough, T. Yilmaz, J. Kokini*

9:35 Intermission.

9:50 AGFD 160. Development of soy glycinin microcapsule responsive to ionic strength and pH. *Q. Wang, N. Chen, J. Zhang*

10:20 AGFD 161. Flexible and more water-resistant edible films from caseinate, milk and alkali. *L. Bonnaille, P. Tomasula, M.H. Tunick*

10:50 AGFD 162. Dissolution evaluation of Felodipine/zein amorphous solid dispersions system as compared to commercial polymers HPMC-AS and PVP-VA. *H. Zhang*

11:20 AGFD 163. Application of cereal prolamin coixin for polymethoxyflavone encapsulation. *X. Wang, Q. Huang*

SECTION C

Boston Convention & Exhibition Center
Room 108

Bioactives & Skin Health

Cosponsored by MEDI

K. M. George, H. Ma, N. P. Seeram, *Organizers, Presiding***8:00** Introductory Remarks.**8:05 AGFD 164.** The skin whitening effect and mechanism of isoartocarpesin, a flavonoid from jackfruit. *M. Wang, Y. Wu, S. Hu***8:35 AGFD 165.** Study on the effect of collagen peptides on UV-induced photoaging mouse skin and its bioactive components. *B. Li***9:05** Intermission.**9:20 AGFD 166.** Oral administration of lipoteichoic acid from probiotic bacteria modulates cutaneous immune responses after ultraviolet exposure. *D. González Maglio***9:50 AGFD 167.** Skin anti-aging by polyphenolic botanicals via human dermal gene and protein expression analysis. *E. Lephart***10:20 AGFD 168.** Inhibitory effects of glucitol-core containing gallotannins from a proprietary red maple (*Acer rubrum*) leaves extract on elastase enzyme. *H. Ma, N.P. Seeram***10:50** Concluding Remarks.**SECTION D***Boston Convention & Exhibition Center
Room 109A***Applied Nanotechnology for Food & Agriculture**

Cosponsored by AGRO

S. Nam, B. Park, *Organizers, Presiding***8:00** Introductory Remarks.**8:05 AGFD 169.** An optimized experimental and modeling approach for bulk protein and oil prediction in soybean using transmission Raman spectroscopy. *R. Singh, T. Wrobel, P. Mukherjee, M.R. Kale, M. Gryka, S. Harrison, R. Bhargava***8:30 AGFD 170.** Assembly of biocatalytic materials using material-binding proteins/peptides. *S. Singh, T.C. Hinkley, S.R. Nugen, J. Talbert***8:55 AGFD 171.** Growth mechanism of silver nanoparticles synthesized by water-based binary polyol reduction. *S. Nam, B. Park, B.D. Condon***9:20 AGFD 172.** Controlled release nanocomposite microcapsules for agricultural applications.*K. Shanmuganathan, P. Shukla, S. Jagtap, V. Patil, A. Sapre***9:45** Intermission.**10:00 AGFD 173.** High aspect ratio nanomaterials enable biomolecule delivery and transgene expression or silencing in mature plants. *G. Demirel, H. Zhang, J. Matos, R. Chang, B. Staskawicz, M. Landry***10:25 AGFD 174.** Nanotechnology-based solutions for the removal and real-time monitoring of phosphorous containing species for sustainable food and agricultural production. *E. Andreescu, D. Andreescu, E. Dumitrescu, A. Othman***10:50 AGFD 175.** Rapid, extraction-free, PCR-free meat species identification with electric field induced release and measurement (EFIRM). *X. Sun, X. Lin, M. Dai, Y. Chen, M. Tu, Y. Mo, W. Liao***11:15 AGFD 176.** Nanotoxicological indices at exposure for *Vigna subterranea*. *E.O. Nwaichi, E. Anosike***11:40** Concluding Remarks.**Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production**

Sponsored by CHAS, Cosponsored by AGFD

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

MONDAY AFTERNOON**SECTION A***Boston Convention & Exhibition Center
Room 107B***Chemistry, Flavor & Health Effects of Teas Bioactivity**

Cosponsored by AGRO

C. Ho, D. Li, X. Wan, Z. Zhang, *Organizers*Y. Wang, *Organizer, Presiding*Z. Xie, *Presiding***1:00** Introductory Remarks.**1:05 AGFD 177.** Studies on prevention of obesity, diabetes, cardiovascular diseases and cancer by tea. *C. Yang***1:30 AGFD 178.** Tea polyphenols for cancer chemoprevention. *H. Xiao***1:55 AGFD 179.** Disease chemopreventive effects and molecular mechanisms of tea polyphenols. *M. Pan, Y. Chiou, C. Ho***2:20 AGFD 180.** The mitochondria as a putative target for the actions of the green tea polyphenol, (-)epigallocatechin-3-gallate. *J. Lambert***2:45** Intermission.**3:05 AGFD 181.** Effects of tea extracts on weight gain and gut microbiota in C57BL/6J mice fed a high-fat diet. *J. Liu, Z. Chen***3:25 AGFD 182.** Tea polysaccharides as potential preventive and therapeutic options for metabolic disease: The key role of the gut microbiota. *X. Zeng, G. Chen, D. Chen, P. Wan***3:45 AGFD 183.** Green tea and its functional components modulate the gut microbiota in obese mice induced by high-fat diet. *K. Sun, J. Li, E. Aokorful, X. Chen, X. Li***4:05 AGFD 184.** Tea crude powder consumption attenuates smoking-induced foam cell formation through inhibition of the $\alpha 9$ -nicotinic-acetylcholine receptor expression in monocytes: An *ex vivo* study. *L. Chen, C. Ho, Y. Ho***SECTION B***Boston Convention & Exhibition Center
Room 107C***Structure & Assembly of Food Biopolymers**

Cosponsored by POLY

Q. Huang, *Organizer, Presiding*W. Jin, Y. Ting, Q. Wang, *Presiding***1:00** Introductory Remarks.**1:05 AGFD 185.** Amylose-guest inclusion complexes for extended release of cyclic organic compounds. *L. Shi, L. Kong, G. Ziegler, H. Hopfer***1:35 AGFD 186.** Starch molecule assembly for bioactive components delivery. *X. Li, L. Chen, X. Huang, L. Li***2:05 AGFD 187.** Characterization of starch-fatty acid complexes and starch-fatty acid complexes stabilized Pickering emulsions. *X. Lu, Q. Huang***2:35** Intermission.**2:50 AGFD 188.** Polysaccharide microgels with tunable properties and unique functions to solely stabilize high internal phase emulsions to enhance the stability of carotene. *B. Hu***3:20 AGFD 189.** Chemical window into RNAi silencing of the *StNACT03* gene in potato tubers: Monitoring the impact on suberin deposition by profiling of polar and nonpolar metabolites and suberin-enriched tissues. *K. Dastmalchi, O. Chira, M. Perez Rodriguez, M. Figueras, O. Serra, R.E. Stark***3:50 AGFD 190.** A novel cage-like crosslinked porous starch preparation and application. *F. Ning, H. Xiong, Q. Huang***SECTION C***Boston Convention & Exhibition Center
Room 108***Bioactives & Skin Health**

Cosponsored by MEDI

K. M. George, H. Ma, N. P. Seeram, *Organizers, Presiding***1:00** Introductory Remarks.**1:10 AGFD 191.** Health claims proposed under regulation (EC) No. 1924/2006 in the framework of maintenance of skin function: Claimed effects, outcome variables and methods of measurement. *D. Martini, D. Del Rio***1:40 AGFD 192.** Investigation of mechanisms of photoaging and development of target-based skin care products. *Y. Wan***2:10** Intermission.**2:25 AGFD 193.** Inhibitory effects of 4'-demethylnobiletin, a major metabolite of nobiletin and 7,7'-bromo-curcumin, a bioactive analog of curcumin on 12-O-tetradecanoylphorbol-13-acetate (TPA)-induced skin inflammation. *X. Wu, K. Rakariyatham, G. Zhang, H. Xiao***2:55 AGFD 194.** Protective effects of pomegranate (*Punica granatum*) phenolics against hydrogen peroxide-induced oxidative stress in human HaCaT keratinocytes. *C. Liu, H. Guo, N. DaSilva, Y. Wan, H. Ma, N.P. Seeram***3:25 AGFD 195.** Effect of collagen peptides intake on chronologically aged mouse skin. *H. Song, B. Li***3:55** Concluding Remarks.**SECTION D***Boston Convention & Exhibition Center
Room 109A***Get Published: Panel Discussion with JAFIC Editors**

Cosponsored by AGRO

B. D. Guthrie, *Organizer, Presiding***1:00** Introductory Remarks.**1:05 AGFD 196.** Guidance and tips for successful scientific publication in the Journal of Agricultural and Food Chemistry. *T. Hofmann***1:20 AGFD 197.** How to show the originality and novelty of the study reported. *F. Tomas-Barberan***1:35 AGFD 198.** How to perform research on bioactive food constituents. *V. Somaza***1:50** Panel Discussion.**Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles**

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Undergraduate Research Posters Agricultural & Food Chemistry

Sponsored by CHED, Cosponsored by AGFD and SOCED

MONDAY EVENING**SECTION A***Boston Convention & Exhibition Center
Exhibit Hall B2/C***Sci-Mix**X. Fan, *Organizer***8:00 – 10:00**

68, 76, 78, 79, 83, 91, 96, 97, 99, 107, 111, 119, 123, 128, 135, 136, 140, 144, 146, 147, 155, 178, 180, 195. See previous listings.

234, 248, 298, 300, 307, 311, 316, 331, 347. See subsequent listings.

TUESDAY MORNING**SECTION A***Boston Convention & Exhibition Center
Room 107B***Chemistry, Flavor & Health Effects of Teas Bioactivity**

Cosponsored by AGRO

C. Ho, X. Wan, Z. Zhang, *Organizers*D. Li, Y. Wang, *Organizers, Presiding***8:00** Introductory Remarks.**8:05 AGFD 199.** Roasting process improves the hypoglycemic effect of large yellow tea by enhancing the inhibition effect of epimerized catechins on α -glucosidase. *X. Wan, J. Zhou, L. Zhang***8:30 AGFD 200.** Promotion of healthy lifespan by tea in *Caenorhabditis elegans*. *L. Xiong, Y. Gong, Q. Liang, Z. Liu***8:55 AGFD 201.** Flavonoids alleviating insulin resistance through inflammatory signaling. *Y. Tu***9:20** Intermission.**9:40 AGFD 202.** Receptor Na/KATPase, ECG and heart. *Z. Xie***10:00 AGFD 203.** Three tea catechins inhibit contraction of vascular smooth muscle. *M. Yao, Z. Wang, Z. Shen, Z. Xie***10:20 AGFD 204.** Anti-fibrotic activity of dominant tea polyphenols in rats. *S. Li, G. Yang, H. Zhao, C. Ho***10:40 AGFD 205.** Protective effect of oolong tea theasinensin A against carbon tetrachloride-induced liver injury in mice. *W. Hung, Y. Wang, Y. Chiou, Y. Tung, C. Ho, Y. Wang, M. Pan***SECTION B***Boston Convention & Exhibition Center
Room 107C***Structure & Assembly of Food Biopolymers**

Cosponsored by POLY

Q. Huang, *Organizer, Presiding*W. Jin, Y. Ting, Q. Wang, *Presiding***8:00** Introductory Remarks.

8:05 AGFD 206. Gelatin and pectin complex coacervates as carriers for cinnamaldehyde: Effect of pectin esterification degree on coacervate formation and enhanced thermal stability. *S. Xia*

8:35 AGFD 207. Structural characterization and applications of microgels assembled by food proteins and polysaccharides. *W. Jin, F. Jiang*

9:05 AGFD 208. Assembly of ovotransferrin and gum arabic to stabilize Pickering emulsions. *Z. Wei*

9:35 Intermission.

9:50 AGFD 209. Encapsulating curcumin into chitosan/alginate bilayer nanoparticles by coaxial electrospray. *Y. Ting, C. Tsai*

10:20 AGFD 210. Development of different delivery systems of resveratrol with high-loading capacities and target-delivery properties. *J. Zhu, Q. Huang*

10:50 AGFD 211. Whey protein isolate-low methoxyl pectin soluble complexes as delivery vehicles for quercetin. *W. Wijaya, R. Harfeyanto, A. Patel, P. Van der Meer*

11:20 AGFD 212. Delivery of capsaicin using organogel-based nanoemulsions with enhanced bioaccessibility and anti-obesity effects. *M. Lu, Y. Cao, C. Ho, Q. Huang*

SECTION C

*Boston Convention & Exhibition Center
Room 108*

Taste & Aroma Modulators: Chemistry, Biology & Sensory

J. A. Grover, B. D. Guthrie, D. B. Josephson, L. Kreger, T. Shao, M. Sukan, Y. Wang, *Organizers, Presiding*

8:00 Introductory Remarks.

8:45 AGFD 213. New insights into peripheral taste signaling pathways. *K. Medler*

9:20 AGFD 214. A whole taste papilla method to identify taste modifiers. *B.D. Guthrie*

9:55 Intermission.

10:10 AGFD 215. Multiple-modality, simultaneous modulation of tastes. *D.B. Josephson*

10:45 AGFD 216. Effect of taste modifier compounds (TMCs) on mice taste responses. *A. Vandenbeuch, D.B. Josephson*

11:20 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Room 109A*

Young Scientist/JAFC Best Paper Awards

Cosponsored by PROF
K. D. Deibler, *Organizer, Presiding*

8:15 Introductory Remarks.

8:20 AGFD 217. CD36 ligand activities of flavor volatiles in foods with an aldehyde moiety: Identification of saturated aliphatic aldehydes with 9–16 carbon atoms as potential ligands of the receptor. *S. Tsuzuki, T. Amitsuka, T. Okahashi, Y. Kimoto, K. Inoue*

9:05 Intermission.

9:20 AGFD 218. Processing-induced modification on food peptide structure and function. *C. Udenigwe*

SECTION D

*Boston Convention & Exhibition Center
Room 109A*

Sterling Hendricks Memorial Lectureship

Cosponsored by AGRO
A. M. Rimando, *Organizer, Presiding*

11:00 Introductory Remarks.

11:05 AGFD 219. Pathogens and pesticides - Research topics in food and environmental safety. *J.N. Seiber*

Synthesis & Chemistry of Agrochemicals ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

Agricultural Based Natural Products as Biorational Pesticides

Sponsored by AGRO, Cosponsored by AGFD

Joint Reviews for New Pesticides: Success Stories, Challenges & Future Prospects

Sponsored by AGRO, Cosponsored by AGFD

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 107B*

Chemistry, Flavor & Health Effects of Teas Flavor

Cosponsored by AGRO
C. Ho, X. Wan, Y. Wang, Z. Zhang, *Organizers*
D. Li, *Organizer, Presiding*
Z. Xie, *Presiding*

1:00 Introductory Remarks.

1:05 AGFD 220. Identification of aroma-active compounds in tea. *Y. Wang, S. Feng*

1:30 AGFD 221. Aroma formation by tea leaf manufacturing processes. *Z. Feng, Y. Li, Y. Wang, L. Zhang, X. Wan, X. Yang*

1:55 AGFD 222. Elucidation of the key aroma compounds in Hojicha – a roasted green tea beverage (*Camellia Sinensis*) and comparison with a tea beverage prepared from unroasted, but steamed green tea. *M. Flaig, P.H. Schieberle*

2:20 Intermission.

2:40 AGFD 223. Biosyntheses of characteristic aroma compounds in tea (*Camellia sinensis*) leaves and their formations in response to biotic and abiotic stresses. *Z. Yang*

3:00 AGFD 224. Unraveling a crosstalk regulatory network of temporal aroma accumulation in tea plant (*Camellia sinensis*) leaves by integration of metabolomics and transcriptomics. *C. Wei*

3:20 AGFD 225. Aroma characterization of aged green tea using headspace solid-phase microextraction combined with GC/MS and GC-olfactometry. *Q. Dai*

3:40 AGFD 226. Chemical synthesis for a compound library of glycosidically bound tea aroma precursors and *p*-nitrophenyl β-D-primeveroside. *K. Liu, X. Ku, J. Yu, W. Deng, Z. Zhang*

SECTION B

*Boston Convention & Exhibition Center
Room 107C*

Food Bioactives, Nano-Technology & Other Delivery Systems

Cosponsored by AGRO
F. Shahidi, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 AGFD 227. Delivery of ingredients and bioactive compounds to food. *F. Shahidi, P. Ambigaipalan*

1:30 AGFD 228. Fabrication of chia (*salvia hispanica* L.) seed oil nanoemulsions using different emulsifiers. *J. Teng, N. Tao, M. Wang*

1:55 AGFD 229. Encapsulation, protection and controlled release of nutraceuticals using biopolymer microgels. *Z. Zhang, R. Zhang, B. Zheng, D. McClements*

2:20 AGFD 230. Silica-based delivery systems for oral delivery of drugs, enzymes and probiotics. *A. Pasc, M. Girardon, N. Canilho*

2:45 AGFD 231. Mobilization of lipophobicity of cellulose nanocrystals (CNCs): An efficient encapsulation of phycobiliproteins. *A.S. Patel, B. Nayak*

3:10 Intermission.

3:25 AGFD 232. Compositional analyses of cultivars chrysanthemum and evaluations of their antioxidant and anti-inflammatory properties. *Y. Li, J. Sun, B. Gao, J. Liu, P. Yang, W. Lu, P. Chen, L.L. Yu*

3:50 AGFD 233. Hypocholesterolemic activity of polyphenols and essential oil of *Amomum tsaoko* is mediated by increasing fecal excretion of neutral and acidic sterols. *L. Lei, Y. Zhao, Z. Chen*

4:15 AGFD 234. Cinnamaldehyde inhibits fatty acid uptake and increases serotonin release in Caco-2 cells via a TRPA1 dependent pathway. *J.K. Hoi, B. Lieder, J. Hans, J.P. Ley, V. Somoza*

4:40 AGFD 235. Sea buckthorn seed oil is more potent in reducing plasma cholesterol than sea buckthorn fruit oil in hypercholesterolemia hamsters. *W. Hao, Z. Chen*

SECTION C

*Boston Convention & Exhibition Center
Room 108*

Taste & Aroma Modulators: Chemistry, Biology & Sensory

J. A. Grover, B. D. Guthrie, D. B. Josephson, L. Kreger, T. Shao, M. Sukan, Y. Wang, *Organizers, Presiding*

1:00 Introductory Remarks.

1:10 AGFD 236. When we modulate sweet taste, what else are we modulating? *P.A. Breslin*

1:45 AGFD 237. Unique challenges faced by efforts to reduce NaCl consumption through manipulation of salty taste perception. *B. Lewandowski*

2:20 AGFD 238. Cell based discovery and translation of flavor modulators in salt taste. *R.E. Loy, S. Hayden, O. Dedova, D. Sawchuk, K. Shekdar*

2:55 Intermission.

3:10 AGFD 239. HGT-1, a native multi-receptor cell model as an advanced tool for the identification of natural bitter taste antagonists. *V. Somoza, K.I. Lisz, L. Beltran, J. Hans, J.P. Ley*

3:45 AGFD 240. Discovery and function of flavors with modifying properties (FMPs) for attenuation of bitterness in consumer products, pharmaceuticals and OTCs. *G. Servant*

4:20 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Room 109A*

AGFD Award Symposium in honor of Dr. Sevim Erhan

Cosponsored by AGRO and PROF
B. D. Guthrie, M. H. Tunick, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 AGFD 241. Innovative uses of vegetable oils. *S.Z. Erhan*

1:50 AGFD 242. Biosynthesis and applications of microbial glycolipid biosurfactants. *D. Solaiman, R.D. Ashby*

2:15 AGFD 243. Hybrid vegetable oil/essential oil compounds as a new class of environmentally friendly antimicrobials. *H. Ngo, K. Wagner, X. Fan, R. Moreau*

2:40 AGFD 244. Plants to plastics. *A. Biswas, H.N. Cheng, S.Z. Erhan, M. Appell*

3:05 Intermissions.

3:20 AGFD 245. Synthetic platform for controlled delivery of 1-MCP: An effective approach to the protection of crops and produce. *M.I. Sarker, L. Liu, T. Shahrin, X. Fan, P. Tomasula, C. Liu*

3:45 AGFD 246. Active packaging from green polymers through intra- and inter- agencies collaborations. *T. Jin, A. Sousa, X. Fan, L. Liu, K. Yam, P. Tomasula*

4:10 AGFD 247. Utilizing industrial crops (pennycress, camelina, lesquerella, cuphea) as novel protein sources. *M.P. Højilla-Evangelista, R. Evangelista, G.W. Selling, M.A. Berhow*

4:35 AGFD 248. Deriving value-added chemicals from *Sorghum bicolor*: An approach at utilizing the entire sorghum plant. *R.J. Stoklosa*

SECTION E

*Boston Convention & Exhibition Center
Room 109B*

General Papers

Nutrients, Sensory

X. Fan, *Organizer, Presiding*
H. Ma, *Presiding*

1:00 Introductory Remarks.

1:05 AGFD 249. Seasonal and geographical effect on the chemical signature of milk. *L.I. Pilkington, Q. Wan, D. Barker, B. Fedrizzi*

1:30 AGFD 250. Applying signal detection theory (*d'*) for wine sensory analysis. *R. Hahn, C. Fuentes, E. Tomasino*

1:55 AGFD 251. Effectiveness of *Aloe vera* gel based chitosan coating for maintaining physico-chemical characteristics of tomato (*Solanum lycopersicum*). *Z. Nasreen, M. Alom*

2:20 Intermission.

2:30 AGFD 252. Tangeretin and 3',4',3,5,6,7,8-heptamethoxyflavone decrease insulin resistance, fat accumulation and oxidative stress in mice fed high-fat diet. *J.A. Manthey, M. Nery, D. Goncalves, L.C. Spolidorio, T.B. Cesar*

2:55 AGFD 253. Potential preventive and anti-diabetic effects of feruloylated oligosaccharides. *J. Huang, C. Ho, S. Ou*

3:20 AGFD 254. Effect of temperature and pressure on the stability of ascorbic acid in citrus fruit juices. *M.C. Azih*

3:45 AGFD 255. Oxidative stability studies on cashew nut (*Anacardium occidentale*) oil. *M.C. Azih*

Synthesis & Chemistry of Agrochemicals

Kenneth A. Spencer Award: Symposium in Honor of Thomas M. Stevenson

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

Agricultural Based Natural Products as Biorational Pesticides

Sponsored by AGRO, Cosponsored by AGFD

AGFD

Joint Reviews for New Pesticides: Success Stories, Challenges & Future Prospects

Sponsored by AGRO, Cosponsored by AGFD

Chiral Agrochemicals: Analytical Advances & Regulatory Trends

Sponsored by AGRO, Cosponsored by AGFD and ANYL

WEDNESDAY MORNING**SECTION A**Boston Convention & Exhibition Center
Room 107B**Chemistry, Flavor & Health Effects of Teas
Chemistry & Biochemistry**

Cosponsored by AGRO

C. Ho, D. Li, Y. Wang, Z. Zhang, *Organizers*X. Wan, *Organizer, Presiding*C. Ho, *Presiding***8:00** Introductory Remarks.**8:05 AGFD 256.** Impact of botanical diversity within *Theaceae* species on the metabolomic profile and biomedical activity. *H.J. Thompson, Y. Wang, X. Wan***8:30 AGFD 257.** Caffeine and amino acids affect the bioavailability of tea polyphenols in human Caco-2 intestinal cells. *D. Li, Y. Wang, Y. Zuo, F. Zu, Q. Liu, S. Deng, Z. Shen, Z. Xie***8:55 AGFD 258.** Technological innovation promotes the development of tea catechins industry. *S. Zhang, Z. Liu***9:20** Intermission.**9:40 AGFD 259.** Functional characterization of CsNUDX1 related to geraniol formation in *Camellia sinensis*. *S. Wei***10:00 AGFD 260.** Functional verification of different xanthase genes in the tea plant [*Camellia sinensis*]. *L. Gao, X. Dai***10:20 AGFD 261.** Inhibitory effects of tea polyphenols on protein advanced glycation and oxidation in the fructose-induced protein system. *T. Hsiao, Y. Wang, S. Li, M. Pan, C. Ho, C. Lo***10:40** Concluding Remarks.**SECTION B**Boston Convention & Exhibition Center
Room 107C**Food Proteins: Structure, Functionality, Bioactivity & Safety**V. P. Dia, *Organizer*Y. Zhang, *Organizer, Presiding***8:00** Introductory Remarks.**8:05 AGFD 262.** Characterization and functional properties of walnut protein isolates and Maillard reaction products with dextran. *Q. Liu, Q. Huang***8:35 AGFD 263.** Characterization, cloning, expression and molecular modelling of acidic cellulase from Indian buffalo rumen. *S.J. Jakhesara, T. Dadheech, R. Shah, R. Pandit, A. Hinsu, A.P. Kunjadiya, D.N. Rank, C.G. Joshi***9:05 AGFD 264.** C-terminal truncation decreases the metal ion dependence and improves stability of a thermophilic 1,4- α -glucan branching enzyme. *Z. Li, X. Ban, C. Li, Y. Zhang, Z. Gu, L. Cheng, Y. Hong***9:35 AGFD 265.** Removal of methylmercury from fish filets using vacuum tumblers and reducing agents. *S. Umasangtongkul, J.W. Ejniak***10:05** Intermission.**10:20 AGFD 266.** Structure, function and epitope mapping of the peanut panallergen Ara h 8. *B. Hurlburt***10:50 AGFD 267.** Purification and characterization of parvalbumins, the major allergens in *Mustelus griseus*. *R. Yang, T. Jin, M. Cao***11:20 AGFD 268.** Brazil nut (*Bertholletia excelsa*) allergen Ber e 2 in the history of protein chemistry. *Y. Zhang, F. Guo, T. Jin, A.J. Howard, H. Che, T.H. McHugh***SECTION C**Boston Convention & Exhibition Center
Room 108**Taste & Aroma Modulators: Chemistry, Biology & Sensory**J. A. Grover, B. D. Guthrie, D. B. Josephson, L. Kreger, T. Shao, M. Sukan, Y. Wang, *Organizers, Presiding***8:00** Introductory Remarks.**8:10 AGFD 269.** Discovery of new taste modifiers using the Nature-Inspired Chemical Design approach. *E. Frerot, I. Cayeux***8:45 AGFD 270.** Characterization of 2,5-dimethyl-2,4-dihydroxy-3(2H) furanone, a flavourant principle from *Sysepalum dulcificum*. *C. Chukwu***9:20 AGFD 271.** Substituted 3-oxazolines: A novel class of Strecker aldehyde precursors in foods. *M. Granvogl, P.H. Schieberle***9:55** Intermission.**10:10 AGFD 272.** Discovery and biogenesis of food-born taste modulators upon fermentation. *A. Dunkel, P. Christa, M. Dietz, A. Krauss, T. Hofmann***10:45 AGFD 273.** Food-born acetylenic oxylipins as natural kokumi enhancers. *T. Hofmann, V. Mittermeier, A. Dunkel***11:20** Concluding Remarks.**SECTION D**Boston Convention & Exhibition Center
Room 109A**Diet, Health & Gut Microbiome**

Cosponsored by AGRO, BIOL, CARB and CELL

I. Edirisinghe, C. Lai, S. Sang, L. L. Yu, *Organizers*L. Liu, F. Tomas-Barberan, *Organizers, Presiding***8:25** Introductory Remarks by LinShu Liu.**8:30 AGFD 274.** Agricultural basis for enhancing the benefits of the human gut microbiome. *P. Starke-Reed***9:00 AGFD 275.** Diet, the gut microbiome, and its metabolome in health and disease. *G. Wu***9:30 AGFD 276.** Fiber-fermenting gut bacteria as "foundation guild" for a health-supporting gut microbiota. *L. Zhao***10:00** Intermission.**10:15 AGFD 277.** Colonic fermentation exploration of gut microbial metabolism of cranberry polyphenols. *T. Branck, L.A. Doherty, S. Arcidiacono, I. Pantoja-Feliciano, K. Kensing, C. Khoo, C. Chen, A. Kane, K. Racicot, J.W. Soares***10:45 AGFD 278.** Polyphenol exposure, microbial metagenomics, polyphenol metabolites and their biological activity. *B. Burton-Freeman***11:15 AGFD 279.** Developing computational resources for mining microbiome data for antibiotic resistance posed health threat and insights from bioinformatics analyses. *L. Zhang***11:45 AGFD 280.** Stratification by gut microbiota metabolotypes can explain differences in response to polyphenol dietary interventions. *F. Tomas-Barberan, A. González-Sarrias, R. Garcia-Villalba, M. Romo-Vaquero, D. Beltrán, V. Selma, J. Espín***SECTION E**Boston Convention & Exhibition Center
Room 109B**Value-Added Derivatives from Agro-Based Raw Materials
Polysaccharide-Related Materials**

Cosponsored by POLY

M. Appell, *Organizer*A. Biswas, H. Cheng, *Organizers, Presiding*C. Osorio Roa, *Presiding***8:00** Introductory Remarks.**8:05 AGFD 281.** Enzymatic polymerization for engineered polysaccharides: A platform technology at DuPont Industrial Biosciences. *R. Guan, N. Behabtu, R. DiCosimo, S.M. Hennessey, S. Kralj, C.P. Lenges, Y. Li, H.S. Lu***8:35 AGFD 282.** Functionalization and derivatization of polysaccharides using ionic liquids. *J. Kadokawa***9:05 AGFD 283.** Microwave-assisted synthesis and characterization of sucrose polyurethane and its interpenetrating polymer networks. *A. Biswas, S. Kim, V. Boddu, H.N. Cheng***9:35 AGFD 284.** Sustainable raw materials - A platform for molecular design. *G. John***10:05** Intermission.**10:25 AGFD 285.** Rheology of cellulose ether carriers for hot melt extrusion. *R.L. Sammler, T. Chatterjee, K. O'Donnell, M. Rickard, B. Nickless, Y. Li***10:55 AGFD 286.** Sulfur-cellulose composite preparation and thermomechanical analysis. *M.K. Lauer, T. Thiounn, A.G. Tennyson, R.C. Smith***11:25 AGFD 287.** Physicochemical characterization of value-added microencapsulates from tropical fruit by-products. *J. García-Chacón, D. Giuffrida, C. Osorio Roa***Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production**

Sponsored by CHAS, Cosponsored by AGFD

Synthesis & Chemistry of AgrochemicalsSponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC² and ORGN**Agricultural Based Natural Products as Biorational Pesticides**

Sponsored by AGRO, Cosponsored by AGFD

Analytical Topics for Ag Process Chemistry & Formulations Research

Sponsored by AGRO, Cosponsored by AGFD and ANYL

WEDNESDAY AFTERNOON**SECTION A**Boston Convention & Exhibition Center
Room 107B**Advances in Methods & Protocols for Food Pathogen & Toxin Detection**X. He, B. Park, *Organizers, Presiding***1:00** Introductory Remarks.**1:05 AGFD 288.** Investigation of toxic α -dicarbonyl compounds formed from heated cooking oils. *Q. Wang, M. Hengel, T. Shibamoto***1:30 AGFD 289.** Engineering a click-functional T7 bacteriophage for rapid pathogen detection. *H.S. Zurier, J.M. Goddard, S.R. Nugen***1:55 AGFD 290.** Improvement of immunoassays for detection of Shiga toxins in human serum. *X. He***2:20 AGFD 291.** DOLC-NMR: Differential off-line LC-NMR analysis for the discovery of toxic metabolites in *Penicillium raouyei*. *R. Hammerl, O. Frank, T. Hofmann***2:45** Intermission.**3:00 AGFD 292.** Phage-based biosensors for rapid testing of agricultural and process water. *T.C. Hinkley, J. Talbert, S.R. Nugen***3:25 AGFD 293.** Rapid detection methods for foodborne bacterial pathogens. *G. Zhang***3:50 AGFD 294.** Influence of pH on the thermal stability of Staphylococcal enterotoxins A and B and on the reversibility of protein refolding as measured by differential scanning calorimetry. *W.H. Tolleson, O.A. Triplett***4:15 AGFD 295.** Shiga toxin detection with label-free surface plasmon resonance immunosensor. *B. Park, J. Chen, X. He***4:40 AGFD 296.** Fluorescent [5]helicene dyes for biosensing application. *T. Sooksimuang, S. Sahasithiwat, N. Karoonthaisiri, R. Charlermroj, M. Makornwattana, S. Phuengwas, W. Panchan, L. Kangkaew***5:05** Concluding Remarks.**SECTION B**Boston Convention & Exhibition Center
Room 107C**Chemistry & Health Benefits of Natural Foods & Beverages**

Cosponsored by AGFD

Y. Kim, *Organizer*K. G. Lee, *Organizer, Presiding*M. K. Kim, *Presiding***1:00** Introductory Remarks.**1:05 AGFD 297.** Absorption and metabolism of apple phenolic compounds in humans. *J. Lee, A.E. Mitchell***1:30 AGFD 298.** Dietary intake of the whole strawberry inhibited colonic inflammation, restored immune homeostasis and alleviated gut microbiota dysbiosis in dextran sulfate sodium-treated mice. *Y. Han, H. Xiao***1:55 AGFD 299.** Genomics and evolution of fungal gene clusters responsible for synthesis of sphinganine-analog metabolites of concern to human health and food safety. *H. Kim***2:20** Intermission.**2:35 AGFD 300.** Analysis of volatile compounds in various foods using stir bar sorptive Extraction and solid-phase microextraction-arrow. *H. Jang, Y. Lee, J. Lee***3:00 AGFD 301.** Dietary supplementation of potato peel powders prepared from conventional and organic russet and nonorganic gold and red potatoes reduces weight gain in mice on a high-fat diet. *S. Elkahoui, C. Levin, G.E. Bartley, W.H. Yokoyama, M. Friedman***3:25 AGFD 302.** Enhancement of powdered protein functionality by fortifying with natural extracts. *Y. Kim***SECTION C**Boston Convention & Exhibition Center
Room 108**Taste & Aroma Modulators: Chemistry, Biology & Sensory**J. A. Grover, B. D. Guthrie, D. B. Josephson, L. Kreger, T. Shao, M. Sukan, Y. Wang, *Organizers, Presiding*

1:00 Introductory Remarks.

1:10 AGFD 303. Measurement of multimodal taste modulation over time. *A. Feldmeyer*

1:45 AGFD 304. Differentiation between flavors of sweet orange (*Citrus sinensis*) and mandarin (*Citrus reticulata*). *S. Feng, F. Gmitter, Y. Wang*

2:20 AGFD 305. Enjoyment in over the counter medications. *K.D. Deibler*

2:55 Intermission.

3:10 AGFD 306. Impact of bitter tastants on volatile flavor perception of coffee. *A. Saldavini, S. Kokkinidou, J. Peterson, O. Auell, C.T. Simons, D.G. Peterson*

3:45 AGFD 307. Flavor influences diet, but diet may also influence saliva, which in turn may influence flavor. *C.A. Running*

4:20 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Room 109A*

Diet, Health & Gut Microbiome

Cosponsored by AGRO, BIOL, CARB and CELL
*I. Edirisinghe, L. Liu, F. Tomas-Barberan, L. L. Yu, Organizers
C. Lai, S. Sang, Organizers, Presiding*

1:15 Welcome Back Remarks by Shenmin Sang.

1:20 AGFD 308. Interindividual variability in metabolism of oat avenanthramides by human gut microbiota. *S. Sang*

1:40 AGFD 309. Specific members of the human gut microbiome colonize wheat bran-based dietary platforms, thus driving the production of health-related microbial metabolites. *P. Van den Abbeele, K. De Paepe, M. Marzorati, T. Van den Wiele*

2:00 AGFD 310. Effects of dietary fiber by-product short-chain fatty acids on intestinal cell physiology and health. *S. Pearce, N. Ferguson, J.P. Karl, S. Arcidiacono, J.W. Soares, K. Racciat, D. Breault*

2:20 AGFD 311. Acute stressor alters inter-species competition for resistant starch in the gut microbiota. *I. Pantoja Feliciano, J.W. Soares, L.A. Doherty, J.P. Karl, H.L. McClung, N.J. Armstrong, T. Branck, S. Arcidiacono*

2:40 AGFD 312. Epigenetic and metabolomic signature of gene-diet interaction on metabolic diseases. *C. Lai, L.D. Parnell, C. Smith, J. Ordovas*

3:00 Intermission.

3:15 AGFD 313. Gypenosides improved metabolic syndrome by inducing adipose tissue remodeling and modulating gut microbiota composition in diet-induced obese mice. *J. Liu, Y. Li, Z. Wang, H. Zhang, Y. Liu, J. Wang, B. Sun, L.L. Yu*

3:35 AGFD 314. Chemical compositions of cold-pressed seed flours and their effects on gut microbiota and free radicals. *U. Choe, Y. Li, B. Gao, L. Yu, T.T. Wang, J. Sun, P. Chen, J. Liu, L.L. Yu*

3:55 AGFD 315. Metabolism of black tea thearubigins by gut microbiota. *W. Wang, S. Zhang, C. Ohland, C. Jobin, S. Sang*

4:15 AGFD 316. Impact of Western diet versus Mediterranean diet feeding on gut microbiome in non-human primates. *R. Nagpal, C. Shivley, S. Appt, T. Register, H. Yadav*

4:35 AGFD 317. Development of a stable gut microbiota community using *in vitro* methods. *J. Firman, L. Liu, P. Van den Abbeele, C. Tanes, K. Bittinger, P. Tomasula*

4:55 Concluding Remarks by Liangli Yu.

SECTION E

*Boston Convention & Exhibition Center
Room 109B*

Value-Added Derivatives from Agro-Based Raw Materials Triglycerides & Lignin

Cosponsored by POLY
*M. Appell, Organizer
A. Biswas, H. Cheng, Organizers, Presiding
C. Osorio Roa, Presiding*

1:00 AGFD 318. Design of environmentally friendly and cost effective technology for production of valuable modified lipid products. *H. Ngo, R. Moreau*

1:30 AGFD 319. Nontoxic flame retardants from a non-edible plant oil. *B.A. Howell, E.A. Ostrander*

2:00 AGFD 320. Synthesis and Properties of *Azidated Adenopus breviflorus benth seed oil*. *E.T. Akindoyo*

2:30 AGFD 321. Cationic polymerization of epoxidized triglycerides and their copolymers. *H. Cheng, Z. Liu, A. Biswas*

3:00 Intermission.

3:20 AGFD 322. Strategic assemblies of wood-derived building blocks for the advancement of bio-based polymers and composites. *J.F. Stanzione*

3:50 AGFD 323. Polymer-grafted lignin dispersants: Applications in cement and agrochemicals. *N. Washburn, K.M. Perkins, C. Childs*

4:20 AGFD 324. Next generation bisphenols derived from lignin and cashew nut shell liquid (CNSL): Application in thermosetting resins. *A.W. Bassett, C.M. Breyta, A.E. Hannig, J.H. Reilly, K.R. Sweet, J. La Scala, J.F. Stanzione*

Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production

Sponsored by CHAS, Cosponsored by AGFD

Surfactant & Colloid Science as Applied to Agrochemical Formulations

Sponsored by AGRO, Cosponsored by AGFD, ENVR[†] and ORGN

Chemistry & Health Benefits of Natural Foods & Beverages

Cosponsored by AGFD

New Analytical Technologies for Pesticide Analysis

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer

Sponsored by AGRO, Cosponsored by AGFD, CHAL, CHAS and ENVR

Agricultural Based Natural Products as Biorational Pesticides

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Around the World with Pesticide Maximum Residue Levels

Sponsored by AGRO, Cosponsored by AGFD

Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management

Sponsored by AGRO, Cosponsored by AGFD

Chiral Agrochemicals: Analytical Advances & Regulatory Trends

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer

Sponsored by AGRO, Cosponsored by AGFD, CHAL, CHAS and ENVR

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Surfactant & Colloid Science as Applied to Agrochemical Formulations

Sponsored by AGRO, Cosponsored by AGFD, ENVR[†] and ORGN

Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&E[†] and ORGN

Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

THURSDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 252A*

General Papers

Detection Methods

*X. Fan, Organizer, Presiding
H. Ma, Presiding*

8:00 Introductory Remarks.

8:05 AGFD 325. Fast and sensitive determination of lactose in low-lactose dairy products using HPAE-PAD/MS. *M. Agrawal, J. Rohrer*

8:30 AGFD 326. Coffee aroma profiling with GC, GCxGC, and TOFMS. *D. Alonso, E. Humston-Fulmer, J. Binkley, M.F. Merrick*

8:55 AGFD 327. Quantum molecular dynamics and cheminformatics study of mycotoxin toxicity and detection to improve food safety. *Y. Tu, Y. Tseng, M. Appell*

9:20 Intermission.

9:30 AGFD 328. Determination of barbiturate drug residue levels in pet foods to ensure the safety of the foods we provide to our pets. *J.P. McCauley*

9:55 AGFD 329. FT-IR spectrophotometric screening of adulterants in honey. *D.L. Sparks, C. Russell, D. Nakamura, S. Boone, A. Meredith, A.E. Brown*

10:20 AGFD 330. Direct determination of cationic polar pesticides in baby food using ion chromatography and MS/MS or high resolution accurate mass spectrometry. *T.T. Christison, J.E. Madden, J. Rohrer, J. Beck*

SECTION B

*Boston Convention & Exhibition Center
Room 104C*

Chemistry & Health Benefits of Natural Foods & Beverages

Cosponsored by AGFD

*K. G. Lee, Organizer
Y. Kim, Organizer, Presiding
H. Jang, Presiding*

8:00 Introductory Remarks.

8:05 AGFD 331. Anti-obesity effects of green coffee bean and green tea in *Caenorhabditis elegans*. *Y. Park, R. Farias-Pereira, Y. Peng, J. Liu, Y. Yue, P. Shen*

8:30 AGFD 332. Effects of highland barley bran extract on the formation of *N*-carboxymethyllysine in biscuit samples. *H. Liu, D. Zhang, J. Wang*

8:55 AGFD 333. Analysis and formation of *o*-dicarbonyl compounds in Maillard reaction model systems and various alcoholic beverages. *K.G. Lee*

9:20 Intermission.

9:35 AGFD 334. Combinatorial optimization of natural components to enhance the physiological efficacy and reduce the hepatotoxicity. *H. Chun*

10:00 AGFD 335. Identification of key flavor compounds responsible for mulberry fruits dried in different temperatures using integrated flavor analysis techniques. *M.K. Kim*

10:25 AGFD 336. Chemical profiling and pharmacological potentials of the stem and fruit peel crude extracts of *Citrus jambhiri* grown in Nigeria. *O.E. Ogunjinmi*

SECTION C

*Boston Convention & Exhibition Center
Room 253A*

CRISPR

Cosponsored by BIOL
R. S. Tiwari, Organizer, Presiding

8:00 Introductory Remarks.

8:05 AGFD 337. CRISPR for biomedical application. *J. Collins*

8:40 AGFD 338. From CRISPR biology to technologies. *C. Beisel, S. Collins*

9:15 AGFD 339. Genome-scale activation screen identifies a lncRNA locus regulating a gene neighbourhood. *J. Joung, J. Engreitz, E. Lander, F. Zhang*

9:50 Intermission.

10:05 AGFD 340. Ensuring the food safety of the products of modern biotechnology: Applying FDA's 1992 policy on food derived from new plant varieties from genetically engineered plant foods to developing technologies. *R. Merker*

10:40 AGFD 341. Oversight of plants produced using plant breeding innovations at USDA. *J. Turner*

11:15 AGFD 342. Precision gene editing in agriculture. *G. Gocal, C. Schöpke, M. Knuth, D. Songstad, S. Sanders, N. Sauer, P. Beetham*

SECTION E

*Boston Convention & Exhibition Center
Room 253B*

Value-Added Derivatives from Agro-Based Raw Materials New or Improved Biobased Materials or Bioprocesses

Cosponsored by POLY
*M. Appell, Organizer
A. Biswas, H. Cheng, Organizers, Presiding
C. Osorio Roa, Presiding*

AGFD/AGRO

8:00 AGFD 343. Nomilin nanoparticles enhances the inhibition of α -amylase and angiotensin-converting-enzyme. *G.K. Jayaprakasha, B. Patil, H. Shanmugam, P. Acharya*
8:30 AGFD 344. High throughput electrospinning for the design of functional surfaces, nanocomposites and barrier structures made of biopolymers. *J. Lagaron, S. Torres-Giner, C. Prieto, L. Cabedo, A. Cherpinski, B. Melendez, K. Figueroa*
9:00 AGFD 345. Fat for the future: Designing multifunctional molecular oleogels. *G. John, M. Samateh, S. Sagiri*

9:30 Intermission.

9:50 AGFD 346. Value-added products from whey. *M.H. Tunick*

10:20 AGFD 347. Extraction and utilisation of bioactive monomeric phenolics and commercially valuable flavour precursors from grape waste. *D. Barker, R. Jelley, L.I. Pilkington, B. Fedrizzi*

10:50 AGFD 348. Tunable permeation of bio-based and biodegradable polyesters for agricultural applications. *S. Bi, M.J. Sobkowicz*

11:20 Concluding Remarks.

AGRO-SETAC Joint Symposium: Challenges of Utilizing Higher-Tier Ecotoxicity Data in Risk Assessment & Risk Management of Pesticides

Sponsored by AGRO, Cosponsored by AGFD and ENVR
Chemistry & Health Benefits of Natural Foods & Beverages

Cosponsored by AGFD

RNAi & Gene Editing: Utilization for Enhanced Crop Production

Sponsored by AGRO, Cosponsored by AGFD and ANYL
Legal Aspects of Agriculture, Agrochemicals & Agribusiness

Sponsored by AGRO, Cosponsored by AGFD and PROF

AGRO

Division of Agrochemicals

J. Eble, *Program Chair*

OTHER SYMPOSIA OF INTEREST:

Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production
(see CHAS, Mon, Wed)

Chemical Toxicology of Nanomaterials *(see TOXI, Mon)*
 Advances in Quality Assurance & Regulatory Affairs: Impact on the Future of the Food & Drug & Agrochemical Industry *(see BGMT, Wed)*
 The Many Faces of CHAL: Where Chemistry Meets the Law *(see CHAL, Wed)*

Water (The Greenest Solvent): Catalysis in Aqueous & Bi-Phase Systems *(see CATL, Weds, Thu)*

SOCIAL EVENTS:

Graduate Student Lunch, 11:45 AM: Mon
 Blues & Brews, 6:00 PM: Tue
 Awards Social, 6:00 PM: Wed

BUSINESS MEETINGS:

Business Meeting, 5:00 PM: Sun

EVENTS:

Vendors' Session, 5:00 PM: Tue
 "Your AGRO" Mixer, 12:15 PM: Thu

SUNDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
 Room 204A*

INsecticide TARgets (INSTAR) Summit New Targets & Chemistry

T. Anderson, J. R. Bloomquist, T. C. Sparks, D. Swale, K. Y. Zhu, *Organizers*
 J. M. Clark, *Organizer, Presiding*
 K. D. Wing, *Presiding*

8:20 Introductory Remarks.

8:25 AGRO 1. Introduction, past, present and future of INSTAR summits. *J.R. Bloomquist*

8:45 AGRO 2. Current status of new insecticide chemistry, targets, mode of action and the future. *T.C. Sparks, B.A. Lorschach, G.B. Watson, F. Wessels*

9:10 AGRO 3. Perspectives on the identification and development of new insecticide targets. *D. Swale*

9:35 AGRO 4. Navigating the global regulatory landscape for crop protection products: Lessons learning and opportunities for the future. *R. Rasoulpour*

10:00 Intermission.

10:20 Panel Discussion.

12:00 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
 Ballroom East - Theater 2*

Around the World with Pesticide Maximum Residue Levels

Cosponsored by AGFD

H. B. Irrig, C. Tiu, *Organizers*
 P. A. Brindle, *Organizer, Presiding*

8:15 Introductory Remarks.

8:20 AGRO 5. Pesticide regulation and trade: National and international considerations. *J.E. Callahan*

8:45 AGRO 6. Government of Canada initiatives for MRL alignment. *P. Chan*

9:10 AGRO 7. Global outlook on MRL harmonization: U.S. trade and international capacity building. *A. Gore*

9:35 AGRO 8. Challenges Pacific Northwest tree fruit producers have meeting MRL requirements when exporting fruit around the world. *B. Madden*

10:00 Intermission.

10:20 AGRO 9. Import pesticide tolerance pilot project. *M. Doherty, D. Davis*

10:45 AGRO 10. Progress on global crop grouping for extrapolation of pesticide residue studies and outcomes from the third Global Minor Use Summit. *D. Kunkel, W. Barney, J. Baron*

11:10 AGRO 11. Establishing Import MRLs: South Korea and Taiwan. *L.A. Rossi*

11:35 AGRO 12. Import MRLs in Japan: Snapshot of the positive list system. *A. Aoki*

12:00 Panel Discussion.

SECTION C

*Boston Convention & Exhibition Center
 Ballroom East - Theater 3*

Environmental Fate, Transport & Modeling of Agriculturally-Related Chemicals

S. H. Jackson, R. L. Warren, *Organizers, Presiding*

8:40 Introductory Remarks.

8:45 AGRO 13. Extractability of adsorbed organic chemicals using cations. *D. Riggs*

9:10 AGRO 14. What is extractability? Are non-extractable residues in our food supply? *P. Reibach*

9:35 AGRO 15. Benzobicyclon hydrolysatate sorption coefficients in soils used for rice production. *C.D. Willett, M.G. Sena, E.M. Grantz, K.R. Brye*

10:00 Intermission.

10:20 AGRO 16. Environmental fate and impact assessment of thiobencarb application in California rice fields using RICEWQ. *R. Wang, Y. Luo, H. Chen, Y. Yuan, R. Bingner, A. Pitchford, D. Denton, M.A. Locke, M. Zhang*

10:45 AGRO 17. Accurately evaluating the photolytic fate of agrochemicals in natural waters. *J. Apell, K.P. McNeill*

11:10 AGRO 18. Transformation products of 2,4-D sunlight photolysis in simulated leaf surface systems. *L. Su, N. Dai, J.D. Sivey*

11:35 AGRO 19. Web-based access to experimental and predicted data for environmental fate, transport and toxicity data. *A.J. Williams, T. Martin, V. Tkachenko, K. Mansouri, C. Grulke*

12:00 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
 Ballroom East - Theater 4*

Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management

Cosponsored by AGRO

P. Ashfield, M. Dobbs, G. Hall, L. Honey, B. McGaughey, C. Tortorici, *Organizers*

D. D. Campbell, *Organizer, Presiding*

B. Anderson, *Presiding*

8:15 Introductory Remarks.

8:20 AGRO 20. Framework for tiered endangered species assessments. *S. Teed, K. Henry, S. Mortensen, L. Ortega, M. Winchell, T. Hall, N.J. Snyder, M. Dobbs, N. Peranginangin, J. Collins*

8:45 AGRO 21. Estimation of annual agricultural pesticide use. *W.W. Stone*

9:10 AGRO 22. Incorporating usage data to identify areas where pesticide exposure to listed species is most likely to occur. *K. Garber, J. Connolly, S. Lennartz, M. Panger, C. Peck, C. Rossmel, W.P. Eckel, B. Anderson*

9:35 AGRO 23. FEFIF Gopher: Improving data management, accessibility, and use. *A. Frank, B. McGaughey, T. Hall, L. Ghebremichael*

10:00 Intermission.

10:20 AGRO 24. Tools for evaluating indirect effects of pesticides for informed management decisions. *S. McGee, T. Hall, M. Dobbs, M. McCool*

10:45 AGRO 25. Weight-of-evidence pesticide assessments for threatened and endangered species to inform management decisions. *D. Moore*

11:10 AGRO 26. Voluntary conservation: Benefit and cost considerations for stewardship programs. *L. Duzy, B. McGaughey*

11:35 AGRO 27. Creating environmentally resilient agriculture landscapes using precision agriculture technology: An economic perspective. *M.D. McConnell*

12:00 Discussion.

12:10 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
 Ballroom East - Theater 5*

How Can Advances in Chemistry Improve Human Health Exposure Assessment?

Cosponsored by ENVR

P. Price, C. Terry, *Organizers, Presiding*

9:05 Introductory Remarks.

9:10 AGRO 28. Using publicly available data and quantitative models of uncertainty to characterize composition of consumer products in a simulation model of chemical exposure. *P. Price, K. Dionisio, K. Isaacs, K. Phillips*

9:35 AGRO 29. Leveraging chemistry data to improve exposure analyses using the EPA's CompTox Chemistry Dashboard. *A. McEachran, K. Phillips, K. Isaacs, S. Newton, J. Sobus, C. Grulke, A.J. Williams*

10:00 Intermission.

10:20 AGRO 30. Spatial and temporal modeling of potential residential bystander exposures associated with the use of agricultural chemicals. *J. Yan, J.H. Driver, I. van Wesenbeeck*

10:45 AGRO 31. Integrating pharmacokinetic considerations with dose-response data to support risk-based chemical safety assessment. *C. Tan, J. Leonard*

11:10 AGRO 32. Building a more relevant bridge: Interspecies extrapolation based on real-world exposure conditions. *C. Fleming, P.L. Havens*

11:35 Discussion.

11:50 Concluding Remarks.

Functional Foods

Their Novel Biofunctions & Underlying Mechanisms

Sponsored by AGFD, Cosponsored by AGRO

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Sponsored by ENVR, Cosponsored by AGRO and I&EC

Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management

Cosponsored by AGRO

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO, ENFL and I&EC

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
 Room 204A*

INsecticide TARgets (INSTAR) Summit Resistance Management

T. Anderson, J. R. Bloomquist, J. M. Clark, T. C. Sparks, D. Swale, *Organizers*
 K. Y. Zhu, *Organizer, Presiding*
 W. Moar, *Presiding*

1:00 Introductory Remarks.

1:05 **AGRO 33.** Current status of insecticide resistance in insect vectors. *H.V. Pates Jamet*

1:30 **AGRO 34.** One health approach to resistance management. *T.D. Anderson*

1:55 **AGRO 35.** Insecticide resistance and management of malaria vectors. *M.J. Paine*

2:20 **AGRO 36.** Changes in neuronal signaling and cell stress response pathways are associated with a mutigenic response of *Drosophila melanogaster* to DDT selection. *K. Seong, B. Coates, W. Sun, J.M. Clark, B. Pittendrigh*

2:45 Intermission.

3:05 Panel Discussion.

4:35 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

Around the World with Pesticide Maximum Residue Levels

Cosponsored by AGFD

P. A. Brindle, C. Tiu, *Organizers*
H. B. Irrig, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 **AGRO 37.** Uncertainties maximum residue levels create for the global movement of grains and oilseeds. *G. Flanley*

1:30 **AGRO 38.** Effect of the hazard-based cut-off criteria on agriculture exports to the European Union. *M. Lantz, K. Berry*

1:55 **AGRO 39.** New tools for finding potential solutions for differential MRLs and for growers' needs in the area of pests and diseases. *F. Schuster*

2:20 **AGRO 40.** Pesticides residue regulations governing U.S. commodity imports. *N. Mitchell, M. Basu*

2:45 Intermission.

3:05 **AGRO 41.** IESTI update: How a review of dietary exposure methodologies can best support global MRLs. *C.B. Cleveland*

3:30 **AGRO 42.** Benchmarking proposed changes to the international estimated short-term intake (IESTI) model for acute exposure to pesticides. *C. Fleming*

3:55 **AGRO 43.** APEC tools for import maximum residue limits (MRLs). *R. McAllister, C. Tiu, P.A. Brindle*

4:20 **AGRO 44.** Postharvest fumigants: Global MRL progress & challenges. *S.S. Walse*

4:45 Panel Discussion.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

Environmental Fate, Transport & Modeling of Agriculturally-Related Chemicals

S. H. Jackson, R. L. Warren, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 **AGRO 45.** Preliminary assessment of residual herbicide concentrations in tailwater recovery systems. *E. Grantz, C.D. Willett, M. Reba, D. Milholen, D. Leslie*

1:30 **AGRO 46.** Off-site transport of pesticides with runoff from golf course fairway turf: An evaluation of creeping bentgrass versus a fine fescue mixture. *P.J. Rice, B.P. Horgan, J.L. Hamlin*

1:55 **AGRO 47.** How can risk management practices be considered in regulatory risk assessments: Reducing pesticide transport via surface run-off and soil erosion? *S. Sittig, D. Baets, R. Sur*

2:20 **AGRO 48.** Summer fertigation of dairy slurry reduces subsurface drainage nitrate losses compared to fall injection. *J.D. Gamble, G.W. Feyereisen, S.K. Papiernik, C.D. Wentz, J.M. Baker*

2:45 Intermission.

3:05 **AGRO 49.** Soil carryover residue modeling to support safe product use to rotational crops. *N. Peranginangin, D. Porter, G. Vail, D. Cheryl, D. Mao*

3:30 **AGRO 50.** Refined land cover for improving the confidence of pesticide risk assessments. *D. Perkins, J. Amos*

3:55 **AGRO 51.** Ecoregion similarities of field trials - Comparison of field degradation data of some pesticides from New Zealand, Chile and Europe. *B. Gottesburen, H. Boyer, K. Platz, F. Donaldson, J. Goulet Fortin*

4:20 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management

Cosponsored by AGRO

P. Ashfield, D. D. Campbell, G. Hall, L. Honey, C. Tortorici, *Organizers*

M. Dobbs, B. McGaughey, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 **AGRO 52.** Proactive conservation facilitated through section 7(a)(1) of the Endangered Species Act. *P. Ashfield, K. Bissell*

1:30 **AGRO 53.** Leveraging national compensatory mitigation conservation offset strategies to pro-actively address endangered species section 7 authorized take of residual, unavoidable impacts permitted within national scale pesticide biological opinions. *W. White, J. Bickel, N.J. Snyder, M. Kern*

1:55 **AGRO 54.** Addressing agricultural pollutants in the Little Arkansas River using best management practices. *R.W. Graber*

2:20 **AGRO 55.** Wisconsin "Healthy Grown" Program: Research, innovation and implementation of high-bar, whole-farm production systems with certification for potatoes, carrots and onions. *J. Barzen, D. Knuteson*

2:45 Intermission.

3:05 **AGRO 56.** Providing habitat for pollinators and the monarch butterfly (*Danaus plexippus*) using in-field and edge of field conservation practices. *S. Bradbury*

3:30 **AGRO 57.** Rusty-patched bumble bee habitat restoration in Northeast Iowa: Meeting multiple conservation objectives in a working landscape.

L.L. Richardson, D.D. Campbell, B. Sacher, C. Savinelli, J.P. Hanzas, P. Berthelsen, S. Appelgate, S.P. Bradbury

3:55 **AGRO 58.** Evaluation of applied, cross-sector vegetative best management practices in rights-of-way on pollinators. *F. Abi-Akar, D. Perkins, J. Amos, A. Schmolke, S. Vera-Art, I. Caldwell*

4:20 **AGRO 59.** Discussion session: Reflection on the day's information. *B. McGaughey*

4:45 Discussion.

4:55 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Ballroom East - Theater 5*

Innovations in Chemistry Supporting Strategic Human Health Risk Assessments

Cosponsored by CHAS and TOXI

A. Clippinger, S. Papinini, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 **AGRO 60.** Multi-stakeholder collaborations to advance non-animal approaches for testing agrochemical formulations. *A. Clippinger*

1:30 **AGRO 61.** Predictive toxicological approaches: Development, challenges, and applications. *J.R. Damewood*

1:55 **AGRO 62.** How a problem formulation process helped refine inhalation risk assessment for plant protection products. *T.S. Ramanarayanan, D.C. Wolf, P. Hinderliter, S. Flack, B. Parr-Dobrzenski, A. Charlton, S. Pyles*

2:20 **AGRO 63.** Using high-throughput pharmacokinetic simulation and in silico property estimates to anticipate mammalian toxicity. *R.D. Clark, M.S. Lawless, P.R. Daga*

2:45 Intermission.

3:05 **AGRO 64.** Integration of toxicokinetics in agrochemical toxicity testing. *S. Papinini*

3:30 **AGRO 65.** Regulatory perspective: Human health risk assessment for pest control products and reduction in animal use. *P. Chan*

3:55 **AGRO 66.** Inadvertent residues: Food handling uses & emerging regulations. *C. Tiu*

4:20 **AGRO 67.** In vitro studies with human intestinal epithelial cell line monolayers for protein hazard characterization. *B. Delaney*

4:45 Discussion.

4:55 Concluding Remarks.

Functional Foods

Their Novel Biofunctions & Underlying Mechanisms

Sponsored by AGFD, Cosponsored by AGRO

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Sponsored by ENVR, Cosponsored by AGRO and I&EC

Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management

Cosponsored by AGRO

Chemistry of Struvite & Slow Release Fertilizers: From Fundamentals of Crystal Growth to Engineered Nutrient Recovery & Their Release

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Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

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SUNDAY EVENING

Chemistry, Flavor & Health Effects of Teas

Sponsored by AGFD, Cosponsored by AGRO

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

MONDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 204A*

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Cosponsored by AGFD and ANYL

T. Gaines, *Organizer, Presiding*

8:05 Introductory Remarks.

8:15 **AGRO 68.** My 33 years trying to understand P450 endowed herbicide resistance in multi-resistant Lolium. *S. Powles*

9:05 **AGRO 69.** The evolution and management of non-target site resistance. *P. Neve*

9:30 **AGRO 70.** Fighting weed resistance - how Steve Powles helped us get innovation back on track. *M. Busch*

9:55 Intermission.

10:15 **AGRO 71.** Role of xenobiotic detoxification in non-target site herbicide resistance in weeds. *N. Onkokesung, A. Goldberg Cavalleri, C. Tetard-Jones, M. Brazier-Hicks, R. Edwards*

10:40 **AGRO 72.** What roles for metabolism-based resistance to pre-emergent herbicides in *Lolium rigidum*. *D. Brunton, B. Fleet, P. Boutsalis, J. Malone, C. Preston*

11:05 **AGRO 73.** Genomics to characterize Cyt P450 function in herbicide metabolic resistance: A review of recent works. *R.S. Beffa*

11:30 **AGRO 74.** Differences in P450-mediated metabolic resistance mechanisms to triketone and pyrazole HPPD-inhibiting herbicides in *Amaranthus tuberculatus*. *D.E. Riechers, A.V. Lygin, J. Morris, E. McIndoe, S.S. Kaundun*

11:55 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

Pesticide Spray Drift: Application, Evaluation & Mitigation

Cosponsored by ANYL and ENVR

Financially supported by Stone Environmental, Inc. J. W. Perine, H. Thistle, *Organizers, Presiding*

9:00 Introductory Remarks.

9:05 **AGRO 75.** Measuring spray drift from aerial application using horizontal and vertical collectors in a field experiment. *U. Antunias, R.G. Chechetto, J.A. Cunha, A.A. Mota, F.K. Carvalho*

9:30 **AGRO 76.** Estimating appropriate buffer distances to mitigate environmental risk of spray drift using field data and computer automation. *S. Castro-Tanzi, L. Padilla, J.M. Brausch, M. Winchell, J.P. Hanzas*

9:55 Intermission.

10:15 **AGRO 77.** Using AGDISP to assess bystander exposure to pesticide spray drift: A California example. *W. Jiang, T.A. Barry*

10:40 **AGRO 78.** Influence of operational and environmental conditions on spray deposition, uniformity and transport with remotely-piloted aerial spray systems (RASS). *J. Bonds, X. He, C. Wang, A. Herbst*

11:05 **AGRO 79.** Computational fluid dynamics modelling for plant canopy interception of pesticide spray droplets. *L. Padilla, S. Grant, J. Dunne, J.W. Perine, M. Ledson*

AGRO

11:30 AGRO 80. Relative importance of droplet drift versus vapor drift in terms of deposition. *D.A. Sullivan, D. Hlinka, R.D. Sullivan*

11:55 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies

Cosponsored by AGFD, ANYL and ENVR
K. Lynn, K. Myung, M. Zhang, *Organizers*
X. Zhou, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 AGRO 81. Early phase metabolism studies to identify compounds that could be toxic to bees. *P. Cassidy*

9:30 AGRO 82. Approaches of leveraging In Vitro metabolism assays to support animal nature of residue studies and safety assessment of agrochemicals. *X. Zhou, M. Ma, Y.A. Adelfinskaya, A. Brown, T.K. Trullinger, L. Buchholz*

9:55 Intermission.

10:15 AGRO 83. In-vitro biotransformation of an avicide. *D.A. Goldade*

10:40 AGRO 84. Synthesis, biological evaluation, and enzymatic activity of the endophenazines and analogues. *M. Conda-Sheridan, V.R. Udumula, K. Maddeboina, N. Rodrigues de Almeida, J. Jiang, L. Du*

11:05 AGRO 85. Stability and biological activities of pharmaceuticals and personal care products in open water bodies: Roles of environmental factors. *G. Rubasinghege, R. Gurung, H.N. Rijal, S. Maldonado-Torres, A. Chan, S. Rogelj, M.E. Piyasena*

11:30 AGRO 86. Machine learning models for the prediction of xenobiotic metabolism. *C. de Bruyn Kops, M. Šicho, W. Plonka, A. Mazzolari, N. Kochev, N. Jeliakzova, A. Pedretti, D. Svozil, B. Testa, G. Vistoli, J. Kirchmair*

11:55 AGRO 87. Structure-stability relationships of tetrahydroisoquinoline-containing CXCR4 antagonists and lipid prodrugs of tenofovir in liver microsomes. *E.J. Miller, N. Pribut, M. D'Erasmo, B. Iskandar, M. Kim, K. Giesler, J. Marengo, R. Wilson, Y. Tahirovic, E. Jecs, H. Nguyen, L. Wilson, D. Liotta*

12:20 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

Reducing Uncertainty in Modeling the Environmental & Human Health Exposure to Agrochemicals

Cosponsored by CHAS and ENVR
A. M. Ritter, Z. Tang, *Organizers, Presiding*

9:00 Introductory Remarks.

9:05 AGRO 88. Kinetic evaluation of environmental fate studies. *Z. Tang, D.G. Dyer, C. Hassinger*

9:30 AGRO 89. Modeling chemical partitioning at the water-sediment interface. *W.M. Williams, A.M. Ritter*

9:55 Intermission.

10:15 AGRO 90. Analysis of spatial data to reduce the uncertainty of pesticide spray drift contributions to aquatic exposure at the watershed scale. *M. Winchell, H. Rathjens, P. Whatling*

10:40 AGRO 91. Pesticides in flooded applications model (PFAM) ecological modeling sensitivity and the impact of a receiving water body on ecological estimated environmental concentrations. *A.M. Ritter, W.M. Williams*

11:05 AGRO 92. Assessing the impact of distributional analysis in drinking water exposure assessments.

A.Z. Szarka, S. Grant, M. Grunenwald, T.S. Ramanarayanan

11:30 AGRO 93. Probabilistic dietary assessment technique for refining combined milk residues resulting from livestock dietary burden sources with milk residues resulting from insecticide-impregnated ear tags to mitigate potential acute dietary exposures. *M. Grunenwald, A.Z. Szarka, M. Fletcher*

11:55 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Ballroom East - Theater 5*

Process Research & Development in Crop Protection

Q. Yang, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 AGRO 94. Evaluation of potential safety hazards associated with the Suzuki-Miyaura cross-coupling of aryl bromides with vinylboron species. *Q. Yang, B. Canturk, K. Gray, E. McCusker, M. Sheng, F. Li*

9:30 AGRO 95. New catalytic reactions for agroscience.

J.F. Hartwig

9:55 Intermission.

10:15 AGRO 96. Process route scouting of X087, a picolinamide fungicide. *F. Li, N. Choy, K. Bravo, G.T. Whiteker*

10:40 AGRO 97. Development of fluorination reactions: Collaboration between the University of Michigan and The Dow Chemical Company. *M. Cismesia, S.D. Schimler, D.C. Bland, M.S. Sanford*

11:05 AGRO 98. A novel enzymatic process to produce active Lglufosinate from inactive D-glufosinate. *B. Green, M. Oberholzer, S. Fields*

11:30 Discussion.

11:55 Concluding Remarks.

Chemistry, Flavor & Health Effects of Teas Chemistry

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Growing with Project SEED: 50 years and 10,000+ Students

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Applied Nanotechnology for Food & Agriculture

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Environmental Health & Safety of Emerging Chemicals & Technologies

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Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

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MONDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 204A*

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Cosponsored by AGFD and ANYL
T. Gaines, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 AGRO 99. Metabolic degradation of glyphosate and glyphosate tolerance and resistance. *S.O. Duke*

1:30 AGRO 100. Gene expression hotspots in herbicide-resistant waterhemp (*Amaranthus tuberculatus*). *P. Tranel, D. Giacomini, T. Gaines, R.S. Beffa*

1:55 AGRO 101. Mechanism of multiple-herbicide resistance in *Echinochloa phyllopogon*. *S. Iwakami*

2:20 AGRO 102. Multiple herbicide resistance in lowa waterhemp is the norm: Implications of multiple resistances on fitness, resistance mechanisms and future management. *M.D. Owen, E. Jones, D. Kohlhas*

2:45 Intermission.

3:05 AGRO 103. Identification of genes involved in metabolism-based tembotrione resistance in Palmer amaranth (*Amaranthus palmeri*). *A. Kuepper, D. Giacomini, P. Tranel, R.S. Beffa, T. Gaines*

3:30 AGRO 104. 2,4-D metabolic resistance occurs via a P450-mediated hydroxylation reaction in waterhemp (*Amaranthus tuberculatus*). *M.R. Figueiredo, F. Dayan, P. Tranel, S. Nissen, P. Westra, M. Bernards, G. Kruger, M. Jugulam, T. Gaines*

3:55 AGRO 105. Cytochrome P450s and multiple resistance in *Amaranthus palmeri* and *Echinochloa colona*. *N. Burgos, C. Rouse, R.A. Salas-Perez, R. Noorai, A. Lawton-Reuh, L. Fan, J. Qiu, S. Sasaki*

4:20 AGRO 106. Pyroxasulfone resistance mediated by enhanced metabolism in *Lolium rigidum*. *T. Gaines, R. Busi, A. Porri, S. Powles*

4:45 Discussion.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices

Cosponsored by AGFD, ANYL and ENVR

J. Ferguson, *Organizer*
J. Balcer, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 AGRO 107. Consensus ranking and fragmentation prediction for identification of unknowns in high resolution mass spectrometry. *A. McEachran, H. Al-Ghoul, I.A. Balabin, T. Cathey, J. Sobus, A.J. Williams*

1:30 AGRO 108. Analysis of anionic phosphorus species and isotope dilution measurement of phosphate in surface water samples. *V.I. Furdul, V. Packa, N. Diep, T. Howell, V. Bostan, S. Maedler, R.J. Tooley*

1:55 AGRO 109. High resolution mass spectrometry applications in the identification of polar environmental metabolites to support development of new agricultural products. *Y. Adelfinskaya, J.R. Gilbert, J. Balcer, J.A. Godbey, J.A. Taylor*

2:20 AGRO 110. Targeted and untargeted metabolomics to resolve bitter off-taste challenges in carrots (*Daucus carota* L.). *C. Dawid, S. Baur, A. Dunkel, T. Nothnagel, D. Ulrich, F. Dunemann, B. Singldinger, T. Hofmann*

2:45 Intermission.

3:05 AGRO 111. Comprehensive pesticide analysis by SWATH® and MRM-HR acquisition using the SCIEX X500R QTOF high resolution accurate mass spectrometer. *C. Butt, R. Di Lorenzo, C. Borton*

3:30 AGRO 112. Method development for analysis of picloram in compost. *K. Kuppannan, S. Ring, J. Walter, K. Smith, Y. Ding, M. Hastings*

3:55 AGRO 113. Use of modern MS techniques and informatics to support agricultural research and a pragmatic approach to contaminant screening. *G. Cleland*

4:20 AGRO 114. Combining sample clean-up techniques and high resolution LC-MS, with software manipulation, for metabolite identification in support of agrochemical product development. *J. O'Neill*

4:45 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

Environmental Study Design: Current & Emerging Guidelines to Fulfill Regulatory Needs

Cosponsored by ENVR
H. Adusumilli, A. Chen, X. Huang, K. Malekani, E. Nfon, Q. Yao, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 AGRO 115. Challenges and approaches on the conduct of aqueous photolysis studies: Case study for a low solubility compound producing volatile organics and polar unknown degradates. *M. Chandrashekar, M. Ponte*

1:30 AGRO 116. Study design and conduct of surface water mineralization in either dark or diffuse light with optional inclusion of sediment. *R. Lomax, M. Ponte*

1:55 AGRO 117. Designing experiments to support USDA National Conservation Practice Standards and air quality guidelines. *Q. Yao, H. Li, M.D. Buser, J.G. Alferi, Z. Yang, J.D. Wanjura, P.M. Downey, C. Zhang, C. Craige, A. Torrents, L.L. McConnell, G.A. Holt, C.J. Hapeman*

2:20 AGRO 118. Describing aged sorption behavior of pesticide in soil field dissipation studies via inverse modeling. *X. Huang*

2:45 Intermission.

3:05 AGRO 119. Guideline adsorption/desorption study design and approaches to adsorption coefficient determination. *T. Siyoum*

3:30 AGRO 120. Enhanced laboratory techniques for the evaluation of persistence. *S.P. McLaughlin*

3:55 AGRO 121. Transformation of organic chemicals in aquatic sediment systems (OECD 308) under simulated natural sunlight. *C. Wijntjes, D. Adam, W. Völkel, S. Höger*

4:20 AGRO 122. Understanding the behavior of herbicide residues in composts with small scale composting and bioassay tests. *Y. Ding, D.E. Barnekow, T. Jones-Jefferson, J. McFadden, K. Kuppannan, I. van Wesenbeeck, T.K. Trullinger, A. Latham, L. Buchholz*

4:45 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

Vector-Borne Diseases: Role of Chemistry in Managing Risks to Humans, Domestic Animals, Aquaculture & Wildlife

A. D. Gross, D. Swale, W. M. Williams, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 AGRO 123. Mode of action of insecticides and repellents. *V.L. Salgado*

1:55 AGRO 124. Vapor phase repellents: New methods, chemistry, and mechanisms of action. *L. Yang, Y. Liu, U.R. Bernier, M. Tsikolia, K. Linthicum, J.R. Bloomquist*

2:20 AGRO 125. Discovery of chemicals that mediate mosquito host-seeking and biting behavior. *U.R. Bernier, M. Tsikolia, N. Tabanca, J.R. Bloomquist*

2:45 Intermission.

3:05 AGRO 126. Next-gen biorational spatial repellents. *J.R. Coats, E.J. Norris, J.S. Klimavicz*

3:30 AGRO 127. Toxicity and physiological actions of fatty acids and related potassium channel blockers to mosquitoes. *J.R. Bloomquist, F. Demares, Q. Coquerel, G. Richoux, K. Linthicum, U.R. Bernier*

3:55 AGRO 128. Evaluating the mode of action of neonicotinoid insecticides and sulfoximine derivatives on *Ixodes ricinus* nicotinic acetylcholine receptors. *S. Thany*

4:20 AGRO 129. Designing "smarter" insecticides for vector control. *C.A. Hill*

4:45 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Ballroom East - Theater 5*

Process Research & Development in Crop Protection

Q. Yang, Organizer, Presiding

1:25 Introductory Remarks.

1:30 AGRO 130. Commercialization of natural products from discovery via microbial fermentation processes. *P. Maddipati, C. Stowers, M.R. Mikola*

1:55 AGRO 131. Use of green chemistry principles in the design of crop protection processes and products. *G.T. Whiteker*

2:20 AGRO 132. Selective liquid phase hydrogenation of *p*-hydroxybenzyl cyanide over a supported Pd catalyst. *M. McAllister, C. Boulho, C. Brennan, D. Lennon*

2:45 Intermission.

3:05 AGRO 133. Simple and highly effective mono-ligated arylpalladacycle complexes for Suzuki cross coupling reactions. *C. Zhang, S. Tu, K. Ogawa, J. Ringer, C. Derstine, C. Zu*

3:30 AGRO 134. Development of scalable Sn-catalyzed regioselective allylation of 1-methyl-L-rihamnopyranoside. *X. Li, Q. Yang, C. Deamicis*

3:55 Discussion.

4:20 Concluding Remarks.

Chemistry, Flavor & Health Effects of Teas Bioactivity

Sponsored by AGFD, Cosponsored by AGRO

Get Published: Panel Discussion with JAF Editors

Sponsored by AGFD, Cosponsored by AGRO

Environmental Health & Safety of Emerging Chemicals & Technologies

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and CEI

MONDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Sci-Mix

J. E. Eble, Organizer

8:00 – 10:00

274-278, 282-284, 286-289, 293, 297, 299, 304, 306, 308-312, 317, 320-323, 330-332, 345-346, 350-351, 355-360. See subsequent listings.

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 204A*

Synthesis & Chemistry of Agrochemicals

ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

S. Tyagi, Organizer

T. M. Stevenson, Organizer, Presiding

8:05 Introductory Remarks.

8:10 AGRO 135. Synthetic studies toward ryanodol, ryanodine, and related insecticidal natural products. *S.E. Reisman*

9:00 AGRO 136. Award Address (ACS Award in Industrial Chemistry sponsored by the ACS Division of Industrial and Engineering Chemistry). Strategies in the discovery of new insecticides and nematocides: A career perspective. *G.P. Lahm*

9:50 Intermission.

10:10 AGRO 137. Discovery and development of Simparico® (Sarolaner): A novel companion animal isoxazoline parasiticide. *D. Billen*

10:35 AGRO 138. Optimization of mesoionic pyrido[1,2-*a*]pyrimidinone insecticide and discovery of dicloromezotiaz. *W. Zhang, C.W. Holyoke, K.A. Hughes, M. Tong*

11:00 AGRO 139. Novel insecticidal bifenazate derivatives. *W. von Deyn, B. Wedel*

11:25 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

Agricultural Based Natural Products as Biorational Pesticides

Cosponsored by AGFD

J. J. Beck, C. C. Rering, Organizers

S. O. Duke, Organizer, Presiding

8:05 Introductory Remarks.

8:10 AGRO 140. Fungal and plant phytotoxins as tool for legume crops protection. *A. Cimmino, M. Masi, D. Rubiales, M. Vurro, A. Evidente*

8:35 AGRO 141. Antibacterial metabolites from *Alternaria alternate* ZHJG5, an endophytic fungus in *Cercis chinensis*. *S. Zhao, L. Cao, W. Yan, Y. Ye*

9:00 AGRO 142. Role of a multiactive bio-organic substance on protection and yield of rice crop. *S. Pathare, M. Bapat*

9:25 AGRO 143. A new furanocoumarin from leaves of *Amyris elemifera* with antifungal and phytotoxic activities. *A.K. Bracken, K.M. Meepagala, D.E. Wedge, S.O. Duke*

9:50 Intermission.

10:10 AGRO 144. Mode of action of spliceostatin C, a potent herbicidal compound from a microbe. *S.O. Duke, L.G. Boddy, Z. Pan, J. Bajsa-Hirschel*

10:35 AGRO 145. Mosquitocidal constituents from plant pathogenic fungi. *K.M. Meepagala, A.S. Estep, J.J. Becnel*

11:00 AGRO 146. Discovery and development of phytochemical phytotoxins for weed management. *C.L. Cantrell, S.O. Duke*

11:25 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

Vector-Borne Diseases: Role of Chemistry in Managing Risks to Humans, Domestic Animals, Aquaculture & Wildlife

A. D. Gross, D. Swale, W. M. Williams, Organizers, Presiding

8:05 Introductory Remarks.

8:10 AGRO 147. Use of acaricides for integrated management of the black-legged tick: Current science and new opportunities. *A. Li*

8:35 AGRO 148. Inward Rectifier Potassium (Kir) Channels: An emerging target for the control of tick populations and tick-vectoring pathogens. *D. Swale*

9:00 AGRO 149. Genomics and reverse vaccinology research for the integrated use of anti-tick vaccines to manage ticks and tick-borne diseases. *A.A. Pérez de León, F.D. Guerrero, R.J. Miller*

9:25 AGRO 150. Evolution of insecticide resistance is unpredictable: Lessons learned from the *Drosophila* Genetic Reference Panel. *D. Duneau, H. Sun, P. Messer, N. Buchon, J.G. Scott*

9:50 Intermission.

10:10 AGRO 151. Transcript expression changes of cytochrome P450 and ABC transporters in *Aedes aegypti* due to age, sex, and pyrethroid-resistance status. *L. Rault, S. O'Neal, E. Johnson, T. Anderson*

10:35 AGRO 152. Overcoming insecticide resistance: Inhibiting ABC transporters as a means to increase insecticide efficacy. *T.D. Anderson*

11:00 AGRO 153. Characterizing permethrin and etofenprox resistance in two laboratory strains of *Anopheles gambiae*. *A.D. Gross, J.R. Bloomquist*

11:25 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

Joint Reviews for New Pesticides: Success Stories, Challenges & Future Prospects

Cosponsored by AGFD

Financially supported by Corteva Agriscience, CropLife America, Syngenta, Bayer CropScience, ISK Biosciences, BASF

L. Rossi, Organizer

R. de Moraes, K. D. Racke, Organizers, Presiding

8:05 Introductory Remarks.

8:10 AGRO 154. Joint reviews of new pesticide active ingredients: A historical perspective. *L.A. Rossi*

8:35 AGRO 155. Trends in agrochemical product introduction. *M. Phillips, J. McDougall*

9:00 AGRO 156. Industry 10-year retrospective view of joint reviews (2008-2017) for conventional active ingredients. *J. Abbott, R. McAllister, C. DeMarco*

9:25 AGRO 157. Flupyradifurone (Sivanto): A registrant's experience with benefits for MRL harmonization through pesticide global joint review. *C. Sanson, J. Huang*

9:50 Intermission.

10:10 AGRO 158. Global joint reviews: An Isoclast (sulfoxaflor) and Zorvec (oxathiapiprolin) perspective. *T. Carski, N. Simmons*

10:35 AGRO 159. Global joint reviews: BASF success stories and key benefits. *M. Safarpour, J. Murray, T. Mahl*

11:00 AGRO 160. Recent experience of a registrant with joint review of new agrochemicals. *M.F. Leggett*

11:25 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Ballroom East - Theater 5*

Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks

Cosponsored by ANYL and ENVR

M. Kastner, M. Telscher, Organizers

M. Zhang, Organizer, Presiding

8:05 Introductory Remarks.

8:10 AGRO 161. Classification and modelling of non-extractable residues (NER) formation from pesticides in soil. *M. Kaestner, K. Nowak, A. Brock, M. Anja, A. Schaeffer, S. Trapp*

8:35 AGRO 162. Formation and stability of non-extractable residues (NER) of phenolic emerging pollutants in soil. *R. Ji, F. Li, S. Wang, F. Sun, J. Liu, J. Gu, Y. Ma*

9:00 AGRO 163. Correlation between solvent extractability and bioavailability of benzo(a)pyrene in 19 soils measured in juvenile swine. *L. Duan, R. Naidu, K.T. Semple*

9:25 AGRO 164. Nature and bioavailability of non-extractable soil residues of the herbicide cloransulam-methyl. *G. Sims*

9:50 Intermission.

10:10 AGRO 165. Not extractable residues (NER): How extractable are they? *M.J. Telscher*

10:35 AGRO 166. Remobilisation of 'non-extractable' Benzo(a)pyrene residues in contrasting Australian soils. *A. Umeh, L. Duan, K.T. Semple, R. Naidu*

11:00 AGRO 167. Characterization of non-extractable residues in famoxadone degradation via kinetics modelling. *A.K. Sharma*

11:25 Concluding Remarks.

Chemistry, Flavor & Health Effects of Teas Bioactivity

Sponsored by AGFD, Cosponsored by AGRO

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and GEOC

Sterling Hendricks Memorial Lectureship

Sponsored by AGFD, Cosponsored by AGRO

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 204A*

Synthesis & Chemistry of Agrochemicals

Kenneth A. Spencer Award: Symposium in Honor of Thomas M. Stevenson

Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

T. M. Stevenson, Organizer

S. Tyagi, Organizer, Presiding

1:00 Introductory Remarks.

1:05 AGRO 168. Synthetic studies towards complex natural products. *T.J. Maimone*

1:55 AGRO 169. Design and explore sulfur containing heterocyclic insecticides. *M. Xu, T. Bridgell, E. Hoffmann, D. Cordova*

2:20 AGRO 170. Discovery of insecticidal 3-aminopyridyl ureas. *W.T. Lambert, A. Buysse, F. Wessels*

AGRO

2:45 AGRO 171. New 5-phenoxy-pyrazoles and 4-phenoxy-pyrazoles as fungicides. *J.K. Long, M.J. Mahaffey, A. Taggi*

3:10 Intermission.

3:30 AGRO 172. Modular approach to macrocyclic fungicides. *K.G. Meyer, C. Yao, B.M. Nugent, F. Li, J.F. Daeuble, K. Bravo-Altamirano, J. Wilmot, W.H. Dent, Y. Lu, R. LaLonde, J. DeLorbe, K. DeKorver, T.A. Boebel*

3:55 AGRO 173. N-linked azoles as design elements in bioactive molecules. *T.M. Stevenson*

4:45 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

Agricultural Based Natural Products as Biorational Pesticides

Cosponsored by AGFD
J. J. Beck, S. O. Duke, *Organizers*
C. C. Rering, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 AGRO 174. Chemical mediators of multitrophic interactions for biorational pest management. *L.L. Stelinski*

1:30 AGRO 175. Combination of host and fungal volatiles provides improved detection of *Euwallacea nr. fornicatus* in Florida. *N. Tabanca, P.E. Kendra, D. Owens, W.S. Montgomery, T. Narvaez, E.Q. Schnell, D. Carrillo*

1:55 AGRO 176. Microbiome as novel target for the biocontrol of invasive fruit flies. *J. Hernandez, S. Boyles, C. Wong*

2:20 AGRO 177. Associations between *Drosophila suzukii* and fungal microbes. *M. Lewis, K.A. Hamby*

2:45 AGRO 178. Relationship between diapause preparation and diapause length: A possible target for European corn borer management. *J.T. Brown, D. Hahn, R.L. Meagher, J.J. Beck*

3:10 Intermission.

3:30 AGRO 179. Identification, synthesis and field activity of sex pheromone of the Tecia solanivora Polvony (Lepidoptera: Gelechiidae), an invasive pest of potatoes. *C.A. Sierra, V. Vidal, D. Peña, A. Romero*

3:55 AGRO 180. Synthesis of a range of carbohydrate natural based volatile organic compound analogues and the evaluation of their pesticide activity. *K. Oxley, N.K. Jalsa*

4:20 AGRO 181. Development of lures for blueberry maggot (*Rhagoletis mendax*). *J.C. Kawagoe, S.S. Walse, A. Abrams*

4:45 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

Analytical Methods & Study Designs in Pollinator Studies

Financially supported by Golden Pacific Laboratories, JRFA
C. M. Bianca, J. Louque, T. F. Moate, *Organizers, Presiding*

1:00 Introductory Remarks

1:05 AGRO 182. To bee collect or not to bee collect: Efficiency and efficacy in commodity collections for bee residue studies. *P. Moore, M. Lamore, M. Hill, R. Krentz*

1:30 AGRO 183. Measuring multiple matrices to determine wild bee exposure to pesticides in an intensively managed agricultural landscape. *M.L. Hladik, L. Ward, C. Kremen, N.J. Mills*

1:55 AGRO 184. Understanding the impact of pesticide exposure on honey bee immunity. *S. O'Neal, T. Anderson*

2:20 AGRO 185. Honey bee toxicity of residues on foliage (RT₂₅) study: Issues and possible improvements. *R. Singh, D. Schmehl, V. Kramer, B. Sharma, T. Joseph*

2:45 AGRO 186. Laboratory challenges associated with small sample size and matrix suppression in nectar and pollen analysis. *J. Warnick*

3:10 Intermission.

3:30 AGRO 187. Monitoring brood development in honeybee colonies: The right, the wrong and the optimum. *V.J. Kramer*

3:55 AGRO 188. How pesticides move through honey bee hives. *A. Olmstead*

4:20 AGRO 189. Determination of cyhalothrin insecticide residues in pollinator matrices of soybean. *T.F. Moate, K. Derewacz, T. Oakes*

4:45 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

Joint Reviews for New Pesticides: Success Stories, Challenges & Future Prospects

Cosponsored by AGFD
Financially supported by Corteva Agriscience, CropLife America, Syngenta, Bayer CropScience, ISK Biosciences, BASF
K. D. Racke, *Organizer*
L. Rossi, R. de Moraes, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 AGRO 190. Australia's experiences in global joint reviews (GJRs) of pesticides. *J. Lutze, A. Norden*

1:30 AGRO 191. 20 years of North American collaboration – Lessons learned and future directions. *M. Goodis, P. Brander*

1:55 AGRO 192. Global joint reviews: Considerations and advances for minor uses. *D. Kunkel, J. Baron*

2:20 AGRO 193. Europe, Africa and Asia: Regional policy challenges impacting joint submissions. *J. Carvalho, K. Fullner, P. Pukclai, R. de Moraes*

2:45 AGRO 194. UK experience on joint reviews. *D. Flynn, C. Snaith*

3:10 Intermission.

3:20 AGRO 195. Plant protection products: Is Europe really interested in global work sharing? *G. Rennick*

3:45 AGRO 196. Post-market re-evaluation of agricultural chemicals: Challenges and opportunities for international worksharing. *R. Aucoin*

4:10 AGRO 197. Harmonization of maximum residue limits of pesticides among ASEAN countries. *N. Keong*

4:35 Panel Discussion.

SECTION E

*Boston Convention & Exhibition Center
Ballroom East - Theater 5*

Chiral Agrochemicals: Analytical Advances & Regulatory Trends

Cosponsored by AGFD and ANYL
Y. Ding, U. Slomczynska, *Organizers*
M. Ma, L. Riter, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 AGRO 198. Transformation of chiral fungicide Inpyflumox to stereoisomeric metabolites in confined rotational crops. *M.A. Jalal, J. Whitby, T. Nguyen, K. Gohre, S.H. Jackson*

1:30 AGRO 199. Application of chromatographic technologies in support of agrochemical research and development. *P. Rodwell*

1:55 AGRO 200. Enantioselectivity in environmental processing and ecotoxicology of chiral pesticides. *W. Liu*

2:20 AGRO 201. Separations of chiral molecules in support of process chemistry and formulations research. *D. Kneuppel, J. Richards*

2:45 AGRO 202. Chiral analysis of pesticides using SFC-MS and 2D LC-MS. *G. Li, L. Zang, Y. Yang*

3:10 Intermission

3:30 AGRO 203. Environmental transformation of the chiral agrochemical Mandestrobin. *K. Gohre, J.C. Aston, J.J. Maurer, J. Whitby, T. Nguyen, S.H. Jackson, M.A. Jalal*

3:55 AGRO 204. Application of SFC-MS to chiral agricultural active ingredients. *J. Richards, D. Kneuppel, J.A. Godbey, C. Zu*

4:20 AGRO 205. Chiral chromatography of pesticides with SFC and SFC-MS. *J.P. Preston, S. Sadjadi*

4:45 Concluding Remarks.

Chemistry, Flavor & Health Effects of Teas Flavor

Sponsored by AGFD, Cosponsored by AGRO

Food Bioactives, Nano-Technology & Other Delivery Systems

Sponsored by AGFD, Cosponsored by AGRO

AGFD Award Symposium in honor of Dr. Sevim Erhan

Sponsored by AGFD, Cosponsored by AGRO and PROF

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and GEOC

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 204A*

Synthesis & Chemistry of Agrochemicals

Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

S. Tyagi, *Organizer*

T. M. Stevenson, *Organizer, Presiding*

8:05 Introductory Remarks.

8:10 AGRO 206. Physicochemical property guidelines for modern agrochemicals. *Y. Zhang, B.A. Lorsbach, C. Scott*

8:35 AGRO 207. Synthesis and biological activity of 1,2,4-Triazolones as broad spectrum herbicides. *P.L. Sharpe, T.M. Stevenson, M.J. Campbell, T. Cenizal, C. Liberato, E. Reed*

9:00 AGRO 208. Chemistry behind the aminoisothiazoles: A new class of herbicides. *S. Lehr, D. Bernier, T. Droege, M. Masrin, J. Rey, J. Tiebes*

9:25 AGRO 209. Post-emergence dicot weed control using a novel chemical cluster with a new mode of action. *D. Geerdink*

9:50 Intermission.

10:10 AGRO 210. Rational design of agrochemicals: Extending the toolset beyond crystal structures. *D. Kjaer*

10:35 AGRO 211. Quantum of solace for plants: Exploring unprecedented variations of plant hormone Abscisic Acid to identify new lead structures against drought stress in crops. *H. Helmke, J. Frackenhohl, J. Franke, J. Freigang, G. Lange*

11:00 AGRO 212. Preparation of fenpicoxamid standards to support registration studies. *P. Johnsson, L. Creemer, K.G. Meyer, R. Ross*

11:25 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

Agricultural Based Natural Products as Biorational Pesticides

Cosponsored by AGFD
S. O. Duke, C. C. Rering, *Organizers*
J. J. Beck, *Organizer, Presiding*

8:05 Introductory Remarks.

8:10 AGRO 213. Development of host marking pheromones for the control of fruit flies in Africa: The *icipes* experience. *B. Torto, X. Cheseto, D. Kachigamba, S. Ekesi, M. Ndung'u, P.E. Teal, J.J. Beck*

8:35 AGRO 214. Agricultural ecology: Systems to solutions. *J.J. Beck, C.C. Rering*

9:00 AGRO 215. Attract and kill bait for controlling the small hive beetle, *Aethina tumida* (Coleoptera: Nitidulidae). *C. Stuhl*

9:25 AGRO 216. Solventless sampling and GC/MS analyses: A comparative study of three volatile collection techniques. *H.T. Alborn, R. Bruton, N. Boig, J.J. Beck*

9:50 Intermission.

10:10 AGRO 217. Competition between nectar specialist and generalist microorganisms: Effects on metabolite emission and pollinator acceptance. *C.C. Rering, J.J. Beck, R.L. Vannette, R.N. Schaeffer*

10:35 AGRO 218. Impact of flooding on the chemical defenses of maize against the insect pest fall armyworm. *A. Block, S.A. Christensen, C. Hunter*

11:00 AGRO 219. Diverse environmental stimuli result in differential regulation of plant-produced natural product defenses in maize. *S.A. Christensen, E. Schmelz, J. Sims, A. Huffaker, D. Willett, A. Block, C. Hunter, H.T. Alborn*

11:25 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

Analytical Topics for Ag Process Chemistry & Formulations Research

Cosponsored by AGFD and ANYL
M. Pobanz, D. Kneuppel, *Organizers, Presiding*

8:05 Introductory Remarks.

8:10 AGRO 220. Method development for complex agricultural formulations containing multiple active ingredients. *M.D. Evenson*

8:35 AGRO 221. Method development for relevant impurities in agricultural formulated products. *T. Kajdan*

9:00 AGRO 222. Identification of closely related structural and stereoisomeric trace impurity species, via the isolation and purification of these impurities using chiral preparative SFC, allowing for 2D NMR structural studies. *J.P. McCauley, M. Twohig*

9:25 AGRO 223. Quantitation of a minor impurity in Inatreq™ active (Fenpicoxamid) using two-dimensional liquid chromatography. *G.A. Vonwald, K. Kuppanan, P. Lewer*

9:50 Intermission.

10:10 AGRO 224. Unifying, informatics-based approach to life cycle management of impurity data. *J. DiMartino, A. Anderson, S.K. Bhal, G. McGibbon*

10:35 AGRO 225. Mass spectrometry based structure elucidation of impurities in synthetic agrochemicals using modern instrumentation and software tools. *C. Zu, D. Knueppel, M. Wadsley, B. Bruce*

11:00 AGRO 226. On-line measurements for process monitoring, development and manufacturing of Monsanto's crop protection products. *D.S. Malkin, L. Yuan, L. Nguyen, C.S. Zuniga, D.D. Soleta, W. Gavlick*

11:25 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

AGRO-SETAC Joint Symposium: Role of Monitoring Data in Advancing Regulatory Risk Assessment

Cosponsored by ENVR

Financially supported by SETAC North America

L. Carver, D. Perkins, *Organizers, Presiding*

W. Chen, K. Ryberg, *Presiding*

8:05 Introductory Remarks.

8:10 AGRO 227. Challenges with site selection, monitoring well placement and sampling for groundwater monitoring of a pre-emergent herbicide in the upper Midwest. *T. Xu, R. Jones, D. Netzbund, D.R. Gabbert, C. Hassinger, M. Veal, S. Blanchfield*

8:35 AGRO 228. Atrazine Ecological Monitoring Program: Study design and conduct. *J. Trask, L. Carver, S.M. Chen, M. Cox, K. Marincic*

9:00 AGRO 229. Relating sampling bias factors to surface water catchment characteristics for deriving confidence bounds on available pesticide monitoring data. *R.F. Bohaty, S.C. Hafner, C. Hartless, C. Peck, J. Hook, D.S. Spatz*

9:25 Discussion.

9:50 Intermission.

10:10 AGRO 230. Evaluation of SEAWAVE-QEX as a tool to increase the utility of available pesticide surface water monitoring data. *R.F. Bohaty, S.C. Hafner, C. Hartless, C. Peck, J. Hook, D.S. Spatz*

10:35 AGRO 231. Interpreting water quality monitoring observations through modeling: PRZM/SWAT and SEAWAVE-Q. *D. Perkins, A. Jacobson, C. Roy, F. Abi-Akar, W. Chen*

11:00 Panel Discussion.

11:25 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Ballroom East - Theater 5*

Atmospheric Fate & Transport of Volatilized Agricultural Emissions

Cosponsored by ANYL and ENVR

P. L. Havens, *Organizer*

S. Grant, A. M. Ritter, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 AGRO 232. Assessing the effectiveness of vegetative environmental buffers in mitigating ammonia and PM emissions from animal agriculture. *C.J. Hapeman, H. Li, M.D. Buser, K. Ro, W.E. Eichinger, J.H. Prueger, J.D. Wanjura, L.L. McConnell, A. Torrents, J.G. Alfieri, G.A. Holt, Q. Yao, Z. Yang, W.B. Willis, P.M. Downey*

9:00 AGRO 233. Estimating sulfuranyl fluoride emissions during structural fumigation of residential houses. *J. Tao*

9:25 AGRO 234. Investigation of atmospheric transport of the beneficial microorganism *Entomophaga maimaiga* using microspheres. *H. Thistle*

9:50 Intermission.

10:10 AGRO 235. Estimating risk to non-target plants and animals from semi-volatile esticides. *C. Peck, F. Khan, K. Garber*

10:35 AGRO 236. Comparison of three regulatory methods for estimating volatile flux of pesticides from treated fields. *J. Stryker, L. Padilla, J. Dunne, B. Toth*

11:00 AGRO 237. Methodology to more realistically compute deposition rates for volatilized pesticides: Refining the deposition velocity term in dispersion models. *D.A. Sullivan, R.D. Sullivan, D. Hlinka*

11:25 Concluding Remarks.

Chemistry, Flavor & Health Effects of Teas Chemistry & Biochemistry

Sponsored by AGFD, Cosponsored by AGRO

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 204A*

Surfactant & Colloid Science as Applied to Agrochemical Formulations

Cosponsored by AGFD, ENVR⁺ and ORGN

R. Acosta Amado, M. Meredith, S. Sumulong, *Organizers*

K. Hodge-Bell, R. Totten, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 AGRO 238. Novel aromatic surfactants. *M. Meredith, A.J. Stern, D. Fanfair*

2:30 AGRO 239. Overcome common stability challenges in agricultural formulation development. *J. Liu, M. Li, R. Acosta Amado, K. Min, P. Larsen, D. Hopkins*

2:55 AGRO 240. Compatibility agents for complex tank mix systems. *J. Sheehan, J. Bell*

3:20 AGRO 241. Effect of carbon chain length and degree of unsaturation on skin sensitization potential of fatty acids and their corresponding methylated esters. *R. Acosta Amado, S.C. Geheh, R.S. Settivari*

3:45 Intermission.

4:05 AGRO 242. Urea-hydroxyapatite-polymer nanohybrids as seed coatings for enhanced germination of seasonal crops. *D. Pabodha, D.N. Rathnaweera, G. Priyadarshana, C. Sandaruwan, H.L. Kumara, K. Purasinhala, S. Chathurika, S. Daraniyagala, V. Karunaratne, N. Kottegoda*

4:30 AGRO 243. Hydroxyapatite-citric acid nanohybrids for optimum release of phosphorus in fertilizer applications. *R. Samavini, C. Sandaruwan, M.R. de Silva, G. Priyadarshana, N. Kottegoda, V. Karunaratne*

4:55 AGRO 244. Encapsulation of biologics for agricultural applications. *K.H. Kucharzyk, A.D. Duong, R.L. Jones, J. Arnold*

5:20 AGRO 245. New emulsifier system with improved Clethodim stability for emulsifiable concentrate formulations. *E. Weber*

5:45 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

Strategies for Radiolabeling Agrochemicals in Regulatory Studies & Advanced Techniques for Characterization

Cosponsored by ORGN

Y. Yuan, *Organizer*

M. Ma, G. C. Nallani, *Organizers, Presiding*

Y. Yuan, *Presiding*

2:00 Introductory Remarks.

2:05 AGRO 246. Synthesis of radiolabeled standards of bicyclopyrone and sedaxane to support product development. *S. Tyagi, C.D. Cook, J.W. Perine, D.D. Dixon, B.P. McKillican, J.A. Key*

2:30 AGRO 247. Production of isotopically labeled natural products and metabolites by microbial fermentation and biotransformation. *F. Scheffler, N. Geach*

2:55 AGRO 248. Case study: Natural product stability. *N. Geach, M. Jones, P. Morgan*

3:20 AGRO 249. Carbon-14 labeling and synthetic strategies of imazamox and metabolites. *E. Tjaden, H. Pennaka, V. Murrell, M. Han, N. L'Helias, D. Classen*

3:45 Intermission.

4:05 AGRO 250. Strategies for labelling test substances for regulatory studies. *A.K. Sharma, D.L. Ryan, C. Fang*

4:30 AGRO 251. Strategies for isotopic labeling of agrochemical active ingredients to enable registration. *B. Canturk, P. Johnson, M. Ma, J. Balcer, G.T. Whiteker, R. Ross*

4:55 AGRO 252. Using radio-HPLC and radio-TLC in tandem for the quantification and confirmation of known metabolites in support of agrochemical product development. *J. O'Neill*

5:20 AGRO 253. Use of radiolabeled and stable labeled test substances in regulatory metabolism studies for agrochemicals. *K. Ahn, T. Fleischmann*

5:45 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

New Analytical Technologies for Pesticide Analysis

Cosponsored by AGFD, ANYL and ENVR

M. Saha, W. Su, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 AGRO 254. CESI-MS for agrochemical analysis.

S.S. Walse, E. Rangel, W.A. Hall

2:30 AGRO 255. Strategies for extraction and cleanup prior to LC-MS/MS determination of dicamba and other acidic herbicide residues in agricultural samples; consideration for bound and unbound compounds and metabolites.

M.S. Young, K. Tran

2:55 AGRO 256. Expansion of pesticide analysis screen by high resolution mass spectrometry in fresh produce in a regulatory environment. *G. Gerard*

3:20 AGRO 257. Coating-free, "quick-and-easy" scanning electron microscopy imaging of agricultural samples.

N.J. Carter

3:45 Intermission.

4:05 AGRO 258. Analytical methods to quantify off-target movement of dicamba. *L. Ritter*

4:30 AGRO 259. Application of Raman microscopy in pesticide formulation analysis. *K. Smith, T. Prusnick*

4:55 AGRO 260. Analytical method lifecycle through crop protection product phase advancement. *W. Su*

5:20 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer

Cosponsored by AGFD, CHAL, CHAS and ENVR

A. Hood, G. OSullivan, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 AGRO 261. State of our world: An argument for watchful optimism. *J.M. Stewart*

2:30 AGRO 262. Chemophobia - Simply semantics or something deeper?: How to have a discussion with a non-scientist. *D.A. Koch*

2:55 AGRO 263. Politics and the news cycle: How to cut through the noise. *G. OSullivan*

3:20 AGRO 264. Hogwash: Battling misinformation on the front lines of the public sphere. *M. Mangon*

3:45 Intermission.

4:05 AGRO 265. When analytical data deceive: Separating fact from fiction. *W. Reeves*

4:30 AGRO 266. Moms, milk, and Monsanto: The precise conditions for a perfect storm. *M. McGuire, M. McGuire*

4:55 AGRO 267. Agroecosystem approach for endangered species. *G. Watson*

5:20 AGRO 268. Deficit model: Avoid it. *D.J. Gentleman*

5:45 Discussion.

SECTION E

*Boston Convention & Exhibition Center
Ballroom East - Theater 5*

Atmospheric Fate & Transport of Volatilized Agricultural Emissions

Cosponsored by ANYL and ENVR

A. M. Ritter, *Organizer*

S. Grant, P. L. Havens, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 AGRO 269. Analysis of weather and environmental factors associated with off-target dicamba movement. *M. Bish*

2:30 AGRO 270. Dicamba emissions after application appear related to temperature, formulation, and adding glyphosate to the spray mixture. *T.C. Mueller, L. Steckel*

2:55 AGRO 271. Evaluating spatial scale effects of dicamba applications on off-target vapor movement. *T. Orr, N. Pai, E. Sall, C. DesAutels, J. Popovic, R. Reiss*

3:20 AGRO 272. Monte Carlo modeling methods for county-wide and regional analysis of pesticide airborne concentrations and drift for volatilized pesticides. *D.A. Sullivan, R.D. Sullivan, D. Hlinka*

3:45 Intermission.

4:05 AGRO 273. SOFEA3 modeling of 1,3-dichloropropene concentrations in ambient air in high fumigant use areas of the United States. *O. de Cirugeda Helle, I. van Wesenbeeck, S. Cryer*

4:30 Panel Discussion.

4:55 Concluding Remarks.

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Agricultural Based Natural Products as Biorational Pesticides

Cosponsored by AGFD

J. J. Beck, S. O. Duke, C. C. Rering, *Organizers*

AGRO

11:30 – 2:00

AGRO 274. Drought-induced effects on buckwheat (*Fagopyrum esculentum*) floral traits and honey bee visitation. *R.E. Mallingier, C.C. Rering, J.G. Franco, J.J. Beck*

AGRO 275. Comparative analysis of diamide formulations on pest and beneficial insects. *J. Williams, T. Anderson, D. Swale*

AGRO 276. Monoterpenoid and phenylpropanoid esters as long-lasting mosquito repellents. *J.S. Klimavicz, C.L. Corona, J.R. Coats*

AGRO 277. Analysis of activity of monoterpenoid plant compounds on a nicotinic acetylcholine receptor. *C. Wong, M. Abongwa, S. Choudhary, A. Robertson, R.J. Martin, J.R. Coats*

AGRO 278. Natural compound sporium A protects tomato plants against *Botrytis cinerea* by priming the jasmonic acid pathways. *L. Cao, S. Zhao, W. Yan, Y. Ye*

AGRO 279. Using biosolubilization with almond byproduct amendments to disinfect almond orchard soil during pre-plant processing and improve soil quality. *E. Shea, E. Lopez, J.D. Fernandez Bayo, A. Parr, J. Milkereit, Y. Achmon, A. Hodson, J. Stapleton, J. VanderGheynst, C. Simmons*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Around the World with Pesticide Maximum Residue Levels

Cosponsored by AGFD
P. A. Brindle, H. B. Irrig, C. Tiu, *Organizers*

11:30 – 2:00

AGRO 280. Residue analysis of thiametoxam and its metabolite clothianidin during cultivation of strawberry and tomato. *Y. Jeon, J. Jung, S. Park, H. Jung, S. Chai, J. Park, T. Kim*

AGRO 281. Import tolerances in Taiwan procedure, challenges & progress. *J. Chen*

AGRO 282. Comparison of pesticide residues in Korea cabbage and shallot by morphological characteristics of plant. *H. Kim, S. Lee, K. Se-Yeon, S. Cho, J. Kim, K. Kyung*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Assessing Risk, Providing Benefit: Making Informed Decisions in Endangered Species Pesticide Risk Management

Cosponsored by AGFD
P. Ashfield, D. D. Campbell, M. Dobbs, G. Hall, L. Honey, B. McGaughey, C. Tortorici, *Organizers*

11:30 – 2:00

AGRO 283. Toxicity evaluation of combined contamination of herbicide and heavy metals on earthworms (*Eisenia fetida*) in urban soil. *X. Li, W. Chen, M. Wang, X. Li*

AGRO 284. Field air SPME analysis of free-ranging giant pandas in Wolong nature reserve. *A.E. Brown, A. Wilson, D.L. Sparks, K. Knott, S. Willard, T. Connor, Z. Zejun*

AGRO 285. Ecological risk evaluation of combined pollution of herbicide siduron and heavy metals in soils. *M. Wang, R. Jiang, W. Chen*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Chiral Agrochemicals: Analytical Advances & Regulatory Trends

Cosponsored by AGFD and ANYL
Y. Ding, M. Ma, L. Riter, U. Slomczynska, *Organizers*

11:30 – 2:00

AGRO 286. Food antibiotic residues in early life enantioselectively alter the murine gut microbiome and the immune response. *M. Zhao*

AGRO 287. Systemic stereoselectivity bioactivity study of chiral fungicide prothioconazole and its metabolite in agricultural management. *Z. Zhang*

AGRO 288. Chiral amide herbicide metolachlor: Enantioseparation, stereoselective bioactivity and environmental behavior. *L. Zhao, J. Xie, W. Liu*

AGRO 289. Differences between C-chiral enantiomers and axial-chiral enantiomers on enantiomeric separation. *J. Xie, W. Liu*

AGRO 290. Methods for improving chiral HPLC separation of agrochemicals that are present as multiple isomers in biological, soil and water/sediment matrices. *M. Lee, M. Ponte*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Designing Better Studies: Issues & Improvements in Pollinator Studies

C. M. Bianca, J. Louque, T. F. Moate, *Organizers*

11:30 – 2:00

AGRO 291. Modeling of nectar requirements for nectar foraging honey bees (*Apis mellifera*). *S. Rodney*

AGRO 292. Monitoring brood development in honeybee colonies: Which eggs to select and how many? *V.J. Kramer*

AGRO 293. LC-MS/MS method for estimating the exposure to neonicotinoid residues in pollinator attractive habitat adjacent to corn and soybean fields. *M.J. Hall, V. Dang, G. Zhang, M. O'Neal, D. Borts, S. Bradbury, J.R. Coats*

AGRO 294. Gut symbiont viability of honey bees exposed to chemical stressors. *B. Gabriel, T. Anderson*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Environmental Fate, Transport & Modeling of Agriculturally-Related Chemicals

S. H. Jackson, R. L. Warren, *Organizers*

11:30 – 2:00

AGRO 295. Fate and transport of brominated estradiols as surrogates for native 17 β -estradiol in an agricultural field. *H. Hakk, F.X. Casey*

AGRO 296. Use of solid phase microextraction (SPME) in assessing volatility in agrochemical discovery lead optimization. *L. Cai, C. Pedersen, S. Strachan*

AGRO 297. Spatial variability of DDT in aged contaminated soil and its bioavailability to indigenous earthworms. *Z. Yang, C.J. Hapeman, A. Torrents, M.O. Anderson, T. LaChance, R.E. Plummer, L.L. McConnell, D. Jackson*

AGRO 298. Estimation of 1,3-dichloropropene flux by application method under California use conditions using HYDRUS 2-D. *C.R. Brown, F.C. Spurlack*

AGRO 299. Occurrence of antibiotics and antibiotic resistant genes in cow manure-fertilized *Zea mays*. *R. Mullen, J. Hurst, K. Naas, L. Sassoubre, D.S. Aga*

AGRO 300. Using geospatial techniques for effective product stewardship. *A.M. Ritter, C. Hoogeweg, M.A. Thomas, A. Kirk*

AGRO 301. Degradation studies: Solvent systems including both polar and nonpolar solvents to extract residues from soil matrix. *C. Wijnjtes, D. Adam, W. Völkel, S. Höger*

AGRO 302. Improved extraction techniques for regulatory metabolism studies of agrochemicals. *L. Nguyen, B. Nguyen, K. Ahn, T. Fleischmann*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Environmental Study Design: Current & Emerging Guidelines

Cosponsored by ENVR
H. Adusumilli, A. Chen, Q. Yao, *Organizers*

11:30 – 2:00

AGRO 303. Predicting environmental fate of agrochemicals in irradiated water-sediment systems. *L. Laughlin, M. Spradlin*

AGRO 304. Bioconcentration factor-based soil management guideline through uptake pattern of pesticide by radish. *K. Se-Yeon, S. Lee, S. Cho, H. Kim, J. Hwang, J. Kim*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Good Laboratory Practices for the Agrochemical Professional

K. Daigle, C. Lee, K. Watson, *Organizers*

11:30 – 2:00

AGRO 305. Global aspects and demands on cooperation with a CRO. *A. Irmner, M. Traub, B. Rieder*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

INsecticide TARgets (INSTAR) Summit

T. Anderson, J. R. Bloomquist, J. M. Clark, T. C. Sparks, D. Swale, K. Y. Zhu, *Organizers*

11:30 – 2:00

AGRO 306. Use of microtransplanted rat brain tissue in *Xenopus* oocytes to determine the toxicodynamic differences of pyrethroids on sodium channel isoforms in juvenile and adult mammalian brains. *E. Murenzi, A.C. Tolin, S.B. Symington, J.M. Clark*

AGRO 307. Novel target for insecticide design: Mechanistic and structural analysis of arylalkylamine *N*-acetyltransferase from the red flour beetle. *B. O'Flynn, D.J. Merkle*

AGRO 308. Sulfoximine derivative, sulfoxafloflor, activates imidacloprid-sensitive nicotinic acetylcholine receptors on insect neurosecretory cells. *B. Moambi, J. Houchat, A. Carterea, M. Mathe-Allainmat, J. Lebret, J. Graton, J. Le Questel, S. Thany*

AGRO 309. Photochromic imidacloprid for optical control of insecticide performance. *X. Shao*

AGRO 310. Design of selective anti-juvenile hormone agents based on the structural analysis of opq, ligand, and inhibitor-bound type II FPPS of the spruce budworm. *E. Aerts, B. Moradia, S.E. Sen, M. Picard, R. Shi, C. Béliveau, M. Cusson*

AGRO 311. Phytochemical synergists: enhancing pyrethroids with natural plant compounds. *E. Norris, M. Archevald, A.D. Gross, L. Bartholomay, J.R. Coats*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks

Cosponsored by ANYL and ENVR
M. Kastner, M. Telscher, M. Zhang, *Organizers*

11:30 – 2:00

AGRO 312. Effects of coal tar as source material on the desorption kinetics of benzo(a)pyrene from contaminated soils. *L. Yu, L. Duan, R. Naidu, K.T. Semple*

AGRO 313. Non-extractable residues of agrochemicals in soil in the regulatory context. *T. Junge*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer

Cosponsored by AGFD, CHAL, CHAS and ENVR
A. Hood, G. OSullivan, *Organizers*

11:30 – 2:00

AGRO 319. Bayer's Science Transparency Initiative: Enabling access to safety studies. *S. Myers*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Pesticide Spray Drift: Application, Evaluation & Mitigation

Cosponsored by ANYL and ENVR
J. W. Perine, H. Thistle, *Organizers*

11:30 – 2:00

AGRO 314. Spray drift and pest control from aerial applications on soybeans. *J.A. Cunha, R. Barizon, V. Ferracini, M. Assalin, U.R. Antunias*

AGRO 315. Initial measurement and evaluation of spray drift from an unmanned aerial vehicle. *C.R. Brown, D.K. Giles*

AGRO 316. Effect of evaporation rate and recent deposition dataset on AGDISP spray drift modeling for herbicide tank mix partners. *M. Kim, R. Morris*

AGRO 317. Three dimensional plant modelling with open source software for use in spray particle deposition simulations. *J. Dunne, S. Grant, L. Padilla, J.W. Perine, M. Ledson*

AGRO 318. Advancing pesticide management strategies for citrus greening disease. *H. Miller, R. Rehberg, R. Menger, C. Henry, P. Ode, P. Trivedi, T. Borch*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Protection of Sustainable Agricultural Productivity, Public Health & the Environment: General Session

J. E. Eble, *Organizer*

11:30 – 2:00

AGRO 320. Urinary excretion and tissue residues of zilpaterol HCl after trace-level exposures. *D.J. Smith, W.L. Shelver*

AGRO 321. FOCUS and NAFTA degradation kinetics are too conservative? – Aged sorption affects the kinetic modeling of pesticide degradation in soil. *P. Sharma, S. Qiu*

AGRO 322. Photo-enhanced soil metabolism of atrazine.

S. Habeeb, S.P. McLaughlin, M. Tuffy

AGRO 323. Estrone in aquatic systems in the presence of poultry litter and cow manure: Determination of its fate, degree of mineralization, and changes in its endocrine disrupting potential. *M.E. Guardian, D.S. Aga*

AGRO 324. Soybean response to dicamba and 2,4-D in simulated furrow irrigation. *C.D. Willett, E. Grantz, J.A. Lee, M.N. Thompson, J.K. Norsworthy*

AGRO 325. Residual characteristics of trifluralin in water dropwort and shallot. *J. Lee, H. Park, M. Jin, S. Jo, J. Lim, H. Shin, H. Noh, J. Lee, J. Kim, C. Kwon, J. Kim, T. Kim, K.S. Kyung*

AGRO 326. Changes of pyraclostrobin and its metabolite BF 500-3 residues in spinach and Korean cabbage. *S. Jo, H. Park, M. Jin, J. Lee, J. Lim, H. Shin, H. Noh, J. Lee, J. Kim, C. Kwon, J. Kim, T. Kim, K.S. Kyung*

AGRO 327. Dissipation characteristics of cyflufenamide and fenvalerate residues in perilla leaves. *J. Lim, H. Park, M. Jin, J. Lee, S. Jo, H. Shin, H. Noh, J. Lee, J. Kim, C. Kwon, J. Kim, T. Kim, K.S. Kyung*

AGRO 328. Residual characteristics of fosthiazate and imidacloprid in spinach. *H. Shin, H. Park, M. Jin, J. Lee, S. Jo, J. Lim, H. Noh, J. Lee, J. Kim, C. Kwon, J. Kim, T. Kim, K.S. Kyung*

AGRO 329. Bioavailability of HBCD/TBB/TBPH from dust and oil vehicles in Sprague-Dawley rats. *H. Hakk, S.J. Lupton, A. Singh*

AGRO 330. Interaction of glufosinate and *Colletotrichum truncatum* on ammonia levels and glutamine synthetase activity in hemp sesbania. *R.E. Hoagland, C.D. Boyette, R.H. Jordan, K.C. Stetina*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Role of Monitoring Data in Advancing Regulatory Risk Assessment

Cosponsored by ENVR

L. Carver, D. Perkins, Organizers

11:30 – 2:00

AGRO 331. Estimation of concentration percentiles for pesticide surface water monitoring data. *P. Mosquin, J. Aldworth, W. Chen*

AGRO 332. Evaluation of SEAWAVE-Q Model for providing daily predictions from non-daily sampled atrazine surface-water concentration monitoring data. *J. Aldworth, P. Mosquin, W. Chen*

AGRO 333. Spatial and temporal analysis approach to quantify pesticide concentrations in surface water.

R.F. Bohaty, S.C. Hafner, C. Hartless, C. Peck, J. Hook, D.S. Spatz

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Cosponsored by AGFD and ANYL

T. Gaines, Organizer

11:30 – 2:00

AGRO 334. Association between a SNP and cytochrome P450-mediated herbicide resistance in *Lolium spp.* populations. *M. Yannicari, R. Gigon*

AGRO 335. Metabolic resistance to tribenuron-methyl in *Descurainia sophia* L. conferred by cytochrome P450 enzyme (CYP96A146). *Q. Yang, Y. Xu, J. Shen, J. Li, H. Liu, M. Zheng*

AGRO 336. Metabolic and multiple resistance in junglerice from Mississippi. *V. Nandula*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Strategies for Radiolabeling Agrochemicals in Regulatory Studies & Advanced Techniques for Characterization

Cosponsored by ORGN

M. Ma, G. C. Nallani, Y. Yuan, Organizers

11:30 – 2:00

AGRO 337. Environmental metabolism studies with carbon-14 labelled plant protection products. *N. Geach, A. Irmer*

AGRO 338. Considerations for selection of ¹⁴C radioactive tracers and ¹³C stable label analogs to aid metabolite identification by mass spectrometry. *S. Mathys, J. LaMar, T. Fleischmann*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Surfactant & Colloid Science as Applied to Agrochemical Formulations

Cosponsored by AGFD, ENVR⁺ and ORGN

R. Acosta Amado, K. Hodge-Bell, M. Meredith, S. Sumulong, R. Totten, Organizers

11:30 – 2:00

AGRO 339. Water quality influence on dilution properties of an oil-in-water emulsion agricultural formulation. *N.V. de Castro, R. Acosta Amado*

AGRO 340. Systematic approach to identify and solve tank mix incompatibility of crop protection products. *H. Jeon, R. Acosta Amado, R. Degenhardt, M. Olds, H. Shao, M. Somasi*

AGRO 341. Stabilization of a suspension concentrate agricultural formulation with xanthan gum in high electrolyte environment. *G. Pawels, R. Acosta Amado*

AGRO 342. Improving the chemical stability of emulsifiable concentrate agricultural formulations. *B. Perez, R. Acosta Amado, M. Li*

AGRO 343. SLOPE PIT method to characterize surfactants. *S. Deprey, P. Ravier, P. Van der Weeën*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

T. M. Stevenson, S. Tyagi, Organizers

11:30 – 2:00

AGRO 344. Challenging the accepted SAR of diaryl imidazole broad-spectrum fungicides. *C. Liberato, J.K. Long, A. Taggi, T.P. Selby, M. Hanagan, E. Marshall, J. Berezna, S. McCann, J. Bisaha*

AGRO 345. Mesoionic pyrido[1,2-a]pyrimidinones as insecticides. *T. Briddell*

AGRO 346. Pyraziflumid as a novel SDHI fungicide: SARs and synthetic methods. *M. Oda, T. Furuya, Y. Morishita, Y. Matsuzaki, M. Hasebe, N. Kuroki*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices

Cosponsored by AGFD, ANYL and ENVR

J. Balcer, J. Ferguson, Organizers

11:30 – 2:00

AGRO 347. Improved extraction and SPE cleanup protocols for LC-MS determination of ractopamine and other beta-agonist drugs in tissue samples. *M.S. Young, K. Tran*

AGRO 348. Fate of pharmaceuticals and other micropollutants during reverse osmosis of source-separated human urine for agricultural fertilizer application. *B. Wombacher, D.S. Aga*

AGRO 349. Improving chromatographic performance of underivatized anionic polar pesticides in food to overcome renowned analytical challenges. *D. Shah, M.S. Young*

AGRO 350. Comparison of cleanup efficiency for multiresidue analysis of pesticides in soybean by liquid chromatography tandem mass spectrometry. *S. Lee, J. Kim, K. Se-Yeon, Y.D. Lee, H. Kim, S. Cho*

AGRO 351. Global reconnaissance of antimicrobial residues in wastewater and surface waters. *L. Angeles, D.S. Aga*

AGRO 352. Automatic MS data analysis to reveal the metabolic pathway of flonicamid in oranges. *I. Zamora, B. Serro, E. Ortega-Carrasco, R. Romero Gonzalez, A. Garrido French, R. López-Ruiz*

SECTION F

*Boston Convention & Exhibition Center
Ballroom Pre-Function*

Vector-Borne Diseases: Role of Chemistry in Managing Risks to Humans, Domestic Animals, Aquaculture & Wildlife

A. D. Gross, D. Swale, W. M. Williams, Organizers

11:30 – 2:00

AGRO 353. Assessing the environmental risk of pesticides, biopesticides, and anthelmintics used in managing vector-borne diseases. *W.M. Williams, J. Amos, M.W. Guevara, A.M. Ritter*

AGRO 354. Comparison of the patterns of resistance and cross-resistance to insecticides conferred by the two major mechanisms of pyrethroid resistance in *Aedes aegypti*. *L.B. Smith, J.G. Scott*

AGRO 355. Chemical modulation of *Aedes aegypti* inward rectifier potassium ion channels prevents blood feeding and secretory activity of the salivary gland. *A. Soohoo-Hui, D. Swale*

AGRO 356. Chemical inhibition of inward rectifier potassium (Kir) ion channels prevents feeding and salivation of the cotton aphid, *Aphis gossypii*. *Z. Li, J. Davis, D. Swale*

AGRO 357. Altering K⁺ spatial buffering events through modulation of inward rectifier potassium (Kir) channels leads to nervous system failure and insect mortality. *R. Chen, D. Swale*

AGRO 358. Biorational products are effective spatial mosquito repellents against mosquitoes of multiple genera. *C.L. Corona, E.J. Norris, J.S. Klimavicz, J.R. Coats*

AGRO 359. Targeting ATP-sensitive inward rectifier potassium (K_{ATP}) channels to reduce the physiological burden of oxidative stress in European honey bees, *Apis mellifera*. *C.J. Fellows, T. Anderson, D. Swale*

AGRO 360. High-throughput screening apparatus for evaluating spatial repellency and vapor toxicity of commercially available and candidate repellent compounds. *S. Jiang, L. Yang, M. Tsikolia, U.R. Bernier, K. Linthicum, J.R. Bloomquist*

Advances in Quality Assurance & Regulatory Affairs: Impact on the Future of the Food & Drug & Agrochemical Industry

Sponsored by BMGT, Cosponsored by AGRO⁺

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

Environmental Obesogens: Exposure Pathways, Mechanism of Action & Trends

Sponsored by ENVR, Cosponsored by AGRO

WEDNESDAY EVENING

Chemistry of Struvite & Slow Release Fertilizers: From Fundamentals of Crystal Growth to Engineered Nutrient Recovery & Their Release

Sponsored by ENVR, Cosponsored by AGRO

Environmental Health & Safety of Emerging Chemicals & Technologies

Sponsored by ENVR, Cosponsored by AGRO⁺

Environmental Obesogens: Exposure Pathways, Mechanism of Action & Trends

Sponsored by ENVR, Cosponsored by AGRO

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Sponsored by ENVR, Cosponsored by AGRO

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Sponsored by ENVR, Cosponsored by AGRO

THURSDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Ballroom East - Theater 1*

AGRO-SETAC Joint Symposium: Challenges of Utilizing Higher-Tier Ecotoxicity Data in Risk Assessment & Risk Management of Pesticides

Cosponsored by AGFD and ENVR

Financially supported by SETAC North America

S. Levine, Organizer

G. P. Cobb, L. L. McConnell, Organizers, Presiding

8:25 Introductory Remarks.

8:30 AGRO 361. Facilitating engagement on regulatory science in agriculture. *L.L. McConnell, I.D. Kelly, A. Ayers, D. Carley*

8:55 AGRO 362. How higher-tier data can strengthen a pesticide risk assessment: examples with pyrethroids.

J. Giddings, R. Jones, S.H. Jackson, T. Valenti

AGRO/ANYL

9:20 AGRO 363. Probabilistic model for assessing risk to bird species potentially exposed to seed treatment pesticides. *D. Moore, S. Teed, C. Priest, T. Fredricks, L. Schuler*

9:45 AGRO 364. Evaluation of potential impacts of insecticides on aquatic invertebrates: Higher tier evaluations for risk management. *D.G. Dyer, J. Tang, S. McGee*

10:10 Intermission.

10:30 AGRO 365. Opportunities and challenges of using NHDPlus connectivity data in refined modeling of aquatic exposure in flowing water bodies at the watershed scale. *H. Rathjens, M. Winchell, P. Whatling*

10:55 AGRO 366. Improving how we interpret results from the fish short-term reproduction assay (FSTRA) and the medaka extended one generation reproduction Test (MEGRT). *H. Krueger, D. Huggett, J. Wolf*

11:20 AGRO 367. Leveraging product specific residue data to refine dietary ecological assessments. *S. Levine*

11:45 AGRO 368. Potential phototoxic response of Red Swamp Crayfish (*Procambarus clarkii*) to herbicides and fungicides. *E.N. Vebrosky, W. Xu, L.M. Basirico, C.G. Lutz, K.L. Armbrust*

12:10 Panel Discussion.

SECTION B

*Boston Convention & Exhibition Center
Ballroom East - Theater 2*

RNAi & Gene Editing: Utilization for Enhanced Crop Production

Cosponsored by AGFD and ANYL
P. Reibach, M. C. Ruebelt, *Organizers, Presiding*

8:25 Introductory Remarks.

8:30 AGRO 369. Biotechnology: RNAi, antisense oligonucleotides and CRISPR strategies to reduce psyllids and bacterial pathogens in citrus trees. *W.B. Hunter*

8:55 AGRO 370. Genome editing: Technology for creating genetic variation in crop plants. *R. Gaeta*

9:20 AGRO 371. Genetic improvement of potato by INNATE® and gene editing technologies. *H. Duan*

9:45 AGRO 372. Low-cost and scalable production of RNA via cell-free bioprocessing. *J. Abshire, K. Ramachandriya*

10:10 Intermission.

10:30 AGRO 373. *SmartStax@PRO*: The first commercial transgenic crop expressing insecticidal dsRNA to control corn rootworm. *W. Moar, C. Khajuria, S. Evans, G. Head, T. Clark*

10:55 AGRO 374. Midgut RNAi-based gene target for western corn rootworm control. *A. Sethi*

11:20 AGRO 375. RNAi - Registration requirements for risk assessment inputs. *P. Reibach*

11:45 AGRO 376. EPA registration of dsRNAi Plant Incorporated Protectants: Implications for gene edited products. *K. Matthews*

12:10 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Ballroom East - Theater 3*

Contract Research, Good Laboratory Practices & Other Challenges for the Agrochemical Professional

C. Lee, K. Watson, *Organizers*

K. Daigle, K. Malekani, *Organizers, Presiding*
J. Nag, *Presiding*

8:25 Introductory Remarks.

8:30 AGRO 377. Planning, performing, recording, reporting and archiving of analytical impurity profiling studies in compliance with principles of GLP. *L. Sanghani*

8:55 AGRO 378. Roles of the Study Director, Management, Sponsor and the Quality Assurance Unit: GLP test control, reference substance preparation and characterization. *C. Lee, M. Coyle-Rees, V. Erikson*

9:20 AGRO 379. Use of quality metrics to drive the culture of continual improvements. *C. Hughes, P.M. Sarff, J. Dutton*

9:45 AGRO 380. Best practices for obtaining samples of known quality. *K. Watson*

10:10 Intermission.

10:30 AGRO 381. EPA good laboratory compliance.

D. Meyers

10:55 AGRO 382. Industry: A look at the challenges facing CROs in the 21st century. *M.A. Ponte*

11:20 AGRO 383. Safety evaluation: Transport of dangerous goods - guideline requirement, challenges and solution. *J. Patel*

11:45 Discussion.

12:10 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Ballroom East - Theater 4*

Legal Aspects of Agriculture, Agrochemicals & Agribusiness

Cosponsored by AGFD and PROF

R. Bennett, A. Coates, J. M. Van Emon, *Organizers, Presiding*

8:25 Introductory Remarks.

8:30 AGRO 384. View from ten thousand feet: How has agriculture been impacted by legal changes over the past 20 years? *R.M. Bennett*

8:55 AGRO 385. Introduction to the systems for agrochemical patent term extension across Europe. *S. Adams*

9:20 AGRO 386. Patenting the unpatentable? Opportunities for protecting trade secret processes under the America Invents Act. *J.L. Krieger*

9:45 AGRO 387. Resistance and trait considerations in plant protection products. *J. Steffel*

10:10 Intermission.

10:30 AGRO 388. Continuing evolution of the coordinated framework: Implications for agricultural biotechnology. *K. Matthews*

10:55 AGRO 389. Opportunities and challenges for obtaining and defending patents in genetically modified or altered agricultural products, in creating new life forms, and in improved in agrochemical processes. *X. Pillai*

11:20 AGRO 390. GMO patents in the courtroom. *C.A. Burton*

11:45 Discussion.

12:10 Concluding Remarks.

Drug Discovery: Cheminformatic Approaches

Sponsored by CINF, Cosponsored by AGRO

ANYL

Division of Analytical Chemistry

L. Baker and M. Bush, *Program Chairs*

OTHER SYMPOSIA OF INTEREST:

Structures and Functions of Glycans

(see *CARB, Sun, Mon*)

Environmental Nanometrology (see *ENVR, Sun*)

From Lab to Tap: Implications of Scaling up

Nano-enabled Environmental Technologies

(see *ENVR, Wed*)

Microplastic Pollution: Sources, Sinks, and Solutions

(see *ENVR, Mon*)

SOCIAL EVENTS:

ANYL Reception, 5:00 PM: Tue

SUNDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 104A*

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Cosponsored by BIOL, COLL, MPPG and PHYS

X. Xu, *Organizer, Presiding*

8:00 ANYL 1. Development of new luminescent and single molecule optical probes for bio-imaging inside by energy conversion application. *P. Alivisatos*

8:30 ANYL 2. Super bright luminescent Ag and Au nanoparticles for imaging and sensing. *H. Dai*

9:00 ANYL 3. Imaging organelle interactions at super-resolution for almost forever and in multiple colors. *A. Schepartz*

9:30 ANYL 4. Multifunctional size-dependent drug nanocarriers for probing multidrug membrane transporters of single live cells. *X. Xu, P. Songkiatsak, P. Cherukuri, F. Ding, T. Huang*

10:00 Intermission.

10:10 ANYL 5. Low photodamage label-free imaging of single cell activity aimed at mapping neuronal activity. *M. Didier, O. Tarun, S. Roke*

10:40 ANYL 6. Nanoplasmonics for characterizing cell population heterogeneity. *B.M. Reinhard*

11:10 ANYL 7. Full 3D orientation and position determination of single anisotropic nanoparticles with dual-focus dark-field microscopy. *N. Fang, X. Cheng, K. Chen*

11:40 ANYL 8. Porous silicon nanoparticles as luminescent probes. *M.J. Sailor*

SECTION B

*Boston Convention & Exhibition Center
Room 104B*

Paper Devices for Bioanalysis

C. Mace, *Organizer*

M. R. Lockett, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 ANYL 9. Advances in paper-based fluidic devices. *A.W. Martinez, N.W. Martinez, E. Strong, M.M. Troje*

8:35 ANYL 10. Molecular technologies for robust detection of proteins in bodily fluids. *H.D. Sikes*

9:05 ANYL 11. Methods for blood preparation and analysis using paper-based devices. *C. Mace, S. Fernandes, J.C. Brooks, K.R. Baillargeon, L.P. Murray*

9:35 Intermission.

9:50 ANYL 12. Electrochemistry on paper and string. *G.M. Whitesides*

10:20 ANYL 13. Porous microfluidic sensors for field use. *E. Fu*

10:50 ANYL 14. Issues of the nano-bio interface in paper based immunoassays. *K. Hamad-Schifferli*

11:20 ANYL 15. Generating signal at converging liquid fronts in three-dimensional paper-based microfluidic devices. *D. Wilson, R. Parker, C. Mace*

11:50 ANYL 16. Single cell detection in raw sample by a piece of membrane. *X. Lin, X. Huang, M.R. Hoffmann*

12:10 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Room 104C*

Technical Developments & Applications of Optical Chemical Imaging

Cosponsored by BIOL⁺, COLL and PHYS⁺

G. Wang, *Organizer*

N. Fang, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 ANYL 17. Bond-selective phase contrast microscopy at sub-micron spatial resolution and millisecond temporal resolution. *J. Cheng, D. Zhang, L. Lan*

9:30 ANYL 18. Resolving single protein dynamics at polymer interfaces. *C.F. Landes*

9:55 ANYL 19. Developing three-dimensional single particle tracking in complicated environment using deep learning neural networks. *Y. Zhong, H. Zhou, G. Wang*

10:15 Intermission.

10:30 ANYL 20. Live-cell bioorthogonal chemical imaging. *W. Min*

10:55 ANYL 21. Nanophotonic technologies for single-molecule microscopy and spectroscopy. *R.H. Goldsmith*

11:20 ANYL 22. Peakforce infrared microscopy: Non-invasive correlative infrared and mechanical imaging at sub 10nm spatial resolution. *X. Xu, L. Wang, H. Wang, D.S. Jakob*

11:40 ANYL 23. Development of combinatorial spectro-microscopic system for understanding nanoscale and mesoscale structures and dynamics. *F. Zhao*

12:10 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Room 105*

Student Organized Symposia: Supramolecular Analytical Chemistry

Cosponsored by YCC

Financially supported by ACS Sensor; College of Arts & Science, and Department of Chemistry and Biochemistry, the University of Alabama; ISS, Inc.

M. Ihde, X. Liang, J. Tropp, Y. Xu, *Organizers, Presiding*

8:00 Introductory Remarks.

8:10 ANYL 24. Auto-inductive cascades and differential sensing: A union of physical organic chemistry and analytical sciences. *E.V. Anslyn*

8:50 ANYL 25. High-content screening of anti-cancer therapeutics using gold nanoparticle-fluorescent protein supramolecular sensors. *Y. Geng, N. Le, S. Rana, H. Goel, T. Yoshii, A. Mercurio, V.M. Rotello*

9:10 ANYL 26. Sensing fluoride and cyanide anions in water using cationic main group Lewis acids. *F.P. Gabbbai*

9:40 ANYL 27. Photo-responsive molecular baskets capable of removing/releasing targeted molecules in water. *J. Badjic*

10:10 Intermission.

10:20 ANYL 28. Simple sensor arrays for not-so-simple analyses. *P. Anzenbacher*

10:50 ANYL 29. The Hofmeister and inverse Hofmeister effects. *B.C. Gibb*

11:20 ANYL 30. Conjugated polyelectrolytes as supramolecular sensing materials. *K.S. Schanze, Z. Li, Y. Huang*

11:50 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Analytical Technology & Application Innovations in Pharma

E. Jameson, *Organizer, Presiding*
M. Strohmeier, *Presiding*

9:00 Introductory Remarks.

9:05 ANYL 31. Innovation and novel applications for pharmaceutical analysis. *P. Faustino*

9:25 ANYL 32. Drug quality assurance to combat counterfeit Streptomycin and Rifampicin using facile, low cost colorimetry. *M.R. Foster, S. Williams*

9:40 ANYL 33. Purity analysis of volatile/reactive building block chemicals without UV chromophore by HPLC-charged aerosol detection. *L. Dai*

9:55 ANYL 34. Biomarker quantitation by HILIC LC-MS-MS. *S. Tentarelli*

10:10 ANYL 35. Development of a two-dimensional liquid chromatography method for functionalized high molecular weight polyethylene polymer analysis. *J. Wang, S. Yang, K. Zhang*

10:25 Intermission.

10:40 ANYL 36. Solid state NMR spectroscopy as an advanced characterization tool for pharmaceutical solids to support regulatory science. *A. Mohammad, P. Faustino*

10:55 ANYL 37. Mid-infrared photothermal imaging of active pharmaceutical ingredients at submicrometer spatial resolution. *C. Li, D. Zhang, J. Cheng*

11:10 ANYL 38. Image analysis for calibration-free determination of crystallinity in amorphous solid dispersions. *A. Sherman, P. Stroud, J. Hinds, C. Smith, G.J. Simpson*

11:25 ANYL 39. Triboluminescence instrumentation for analysis of residual crystallinity in amorphous pharmaceutical formulations. *S. Griffin, C. Smith, G. Eakins, S. Zhang, J. Novak, Z. Liu, T.A. Rhodes, G.J. Simpson*

11:40 Concluding Remarks.

SECTION F

*Boston Convention & Exhibition Center
Room 107A*

Nanoanalytical Chemistry for Biological & Material Sciences

S. Amemiya, *Organizer, Presiding*
J. Kim, M. Shen, *Presiding*

8:00 ANYL 40. Electroanalytical evaluation of metal and metal oxide nanoparticles by nano-impact electrochemistry: Methodology and analytical applications. *E. Andreescu, K. Kirk, F.H. Narouei, A. Karimi*

8:25 ANYL 41. Nanostructured microsensors for monitoring circulating nucleic acids. *J. Das, S.O. Kelley*

8:50 ANYL 42. Three-dimensional polyfilter interface for sensitive and selective detection of low-molecular-weight biomarker using potentiometric biosensor. *S. Nishitani, T. Sakata*

9:15 ANYL 43. Bipolar electrode-induced electrokinetic effects in nanochannels generate fluorescence enhancement and sharp pH gradients in the absence of a voltage bias. *K. Scida, N. Arroyo-Currás, Y. Satik, A. Eden, J.C. Eijkel, S. Pennathur*

9:40 ANYL 44. Enhanced electron transfer mediated by conjugated polyelectrolyte and its application to washing-free DNA detection. *S. Park, H. Woo, H. Yang*

10:05 Intermission.

10:15 ANYL 45. Core/shell nanorods based dielectrophoresis for biomarker concentration and detection. *J. Fu, Z. Cao, Y. Zhu*

10:40 ANYL 46. Development of nanostructural biochips for various types of cancer marker determination. *F. Ko*

11:05 ANYL 47. Detection and discrimination of isomeric volatile organics on the surface of zinc ferrite chemi-resistor. *K. Mukherjee, M. Zaghoul*

11:30 ANYL 48. Dual-emitting-based sensing nanomaterials. *H. Tantan, C. Wang, C. Wang*

11:55 Concluding Remarks.

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC

Merck Research Award Symposium

Sponsored by WCC, Cosponsored by ANYL, COMP, MEDI and PROF

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS[†], CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Environmental Nanometrology

Sponsored by ENVR, Cosponsored by ANYL and GEOC

Advances in Sensors & Biosensors for Environmental Monitoring

Sponsored by ENVR, Cosponsored by ANYL and BIOL

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 104A*

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Cosponsored by BIOL, COLL, MPPG and PHYS

X. Xu, *Organizer, Presiding*

1:30 ANYL 49. Protein quantification in single cancer cells using single molecule arrays. *D.R. Walt, J. Geldart Flashman*

2:00 ANYL 50. Highly multiplexed and high-throughput analysis of single cells. *D.T. Chiu*

2:30 ANYL 51. Mass cytometric analysis of single-cell cells. *E.A. Arriaga, H. Brown*

3:00 ANYL 52. Nanoparticle medicated single-cell analysis using magnetic ranking cytometry. *M. Labib, S.O. Kelley*

3:20 Intermission.

3:30 ANYL 53. Microengineered tools for advancing preclinical and clinical research. *N.L. Allbritton*

4:00 ANYL 54. Dynamic profiling of anti-tumor immune response at the single-cell resolution by droplet microfluidic cell pairing. *T. Konry*

4:30 ANYL 55. Transient absorption microscopy for single cell analysis: Seeing chromophores that do not fluoresce. *J. Cheng*

5:00 ANYL 56. Multiplex single-cell detection of cytokines by barcoded microarray method. *M. Abdullah, J. Wang*

SECTION B

*Boston Convention & Exhibition Center
Room 104B*

Paper Devices for Bioanalysis

M. R. Lockett, *Organizer*
C. Mace, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 ANYL 57. Innovating beyond the test strip for paper diagnostics. *A.A. Kumar*

2:05 ANYL 58. Paper-based cultures to screen for drug resistance and hormone sensitivity. *M.R. Lockett*

2:35 ANYL 59. Merging electronic bacteria with paper. *S. Choi*

3:05 Intermission.

3:20 ANYL 60. Probing tumour-stroma interactions and the impact of matrix density using paper-based TRACER culture. *A.P. McGuigan, T. Dean, D. Rodenhizer, L. Ailles*

3:50 ANYL 61. Lab-on-paper: Designing paper-based diagnostic devices for translation and automation. *F.W. Kimani, M. Fratzl, B.S. Chang, B.J. Kwasa, N.M. Dempsey, T. Ward, J. Bloch, M.M. Thuo*

4:20 ANYL 62. Electrochemical quantification of potassium on paper-based devices. *D. Wilkins, I.A. Taylor, F. Deiss*

4:50 ANYL 63. Paper-based devices for biothiols sensing using the photochemical reduction of silver halides. *D. Christodouleas, D. Giokas*

5:20 ANYL 64. Design of SERS nanotags for the multiplexed detection of dengue and Zika in lateral flow assay. *M. Sánchez-Purrà, M. Carre-Camps, H. de Puig, I. Bosch, L. Gehrke, K. Hamad-Schifferli*

SECTION C

*Boston Convention & Exhibition Center
Room 104C*

Technical Developments & Applications of Optical Chemical Imaging

Cosponsored by BIOL[†], COLL and PHYS[†]

N. Fang, *Organizer*

G. Wang, *Organizer, Presiding*

1:30 ANYL 65. Single-molecule imaging of nanocatalytic dynamics. *P. Chen*

1:55 ANYL 66. Measuring the nanometer-scale effects of plasmonic coupling with single-molecule microscopy. *J.S. Biteen*

2:20 ANYL 67. Catalysis and spectroscopy of single nanoparticle. *X. Zhou, Y. Du, T. He, S. Xi, W. Wang*

2:40 ANYL 68. In situ visualization of electrocatalytic reaction activity at quantum dots for water oxidation. *Y. Chen, D. Jiang, J. Zhu*

2:55 ANYL 69. Watching carbon fixation on a plasmonic catalyst nanoparticle. *P.K. Jain*

3:20 Intermission.

3:35 ANYL 70. Quantitative single-molecule and single particle study of catalytic reaction kinetics in versatile nanoconfinement under *Operando* condition. *B. Dong, N. Fang, Y. Pei, W. Huang*

4:00 ANYL 71. Revealing the effect of quantum size confinement on nanocatalysis at single cluster level. *W. Xu*

4:20 ANYL 72. Monitoring the dynamic photocatalytic activity of single CdS nanoparticles by fluorescently labeling H₂ nanobubbles. *H. Su, Y. Fang, F. Chen, W. Wang*

SECTION D

*Boston Convention & Exhibition Center
Room 105*

Student Organized Symposia: Supramolecular Analytical Chemistry

Cosponsored by YCC

Financially supported by ACS Sensor; College of Arts & Science, and Department of Chemistry and Biochemistry, the University of Alabama; ISS, Inc.

M. Ihde, X. Liang, J. Tropp, Y. Xu, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 ANYL 73. Lipid detection by a multi-component fluorescent sensor system. *M. Xu, C.W. Littlefield, T.E. Glass*

2:05 ANYL 74. Investigation into the mechanochemical properties of single artificial molecular switches by AFM. *D. Sluysmans, S. Hubert, F. Devaux, C.J. Bruns, Z. Zhu, A. Duwez, J.F. Stoddart*

2:25 ANYL 75. Improving affinity and solubility of supramolecular receptors in aqueous media using dendritic scaffolds. *M. Bonizzoni*

2:55 ANYL 76. Supramolecular approaches to targeting, sensing, and treating solid tumors. *J.L. Sessler*

3:25 Intermission.

3:35 ANYL 77. Supramolecular receptors for anions: Emerging applications in industrial and agricultural sensing. *S.A. Fontenot, D.H. Banning, J. Lohrman, H.A. Fargher, L.M. Eytel, M.M. Haley, D.W. Johnson*

4:05 ANYL 78. Confinement of water pentamers within the crystals of a reduced cyclotriazine. *M.A. Alrasyani, X. Wang, O. Miljanic*

4:25 ANYL 79. Construction of an autonomously concatenated hybridization chain reaction for signal amplification and intracellular imaging. *J. Wei, F. Wang*

4:45 ANYL 80. Supramolecular chemistry of interfaces: Dynamic droplet sensors. *T.M. Swager*

5:25 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Student Organized Symposia: Preparative Mass Spectrometry: Recent Advances & Applications

Cosponsored by YCC

P. Su, *Organizer, Presiding*

H. Hu, *Presiding*

1:30 ANYL 81. Model cluster catalysis and electrocatalysis by size-selected cluster deposition. *T.J. Gorey, A.C. Cass, G. Li, E.T. Baxter, S.L. Anderson*

2:00 ANYL 82. High-coverage deposition of mass-selected cluster anions: Fundamentals and applications. *J. Laskin, P. Su, V. Prabhakaran, G.E. Johnson, J. Warneke*

2:30 ANYL 83. Preparation of model nanocatalysts using size-selected cluster deposition. *M.G. White, M. Xue, K. Goodman, Y. Ma, J. Wang*

3:00 ANYL 84. Dynamics of protonated dialanine adsorption on and desorption from a F-SAM surface. *W.L. Hase*

ANYL

3:30 ANYL 85. Molecular properties of clusters determine the bulk behavior of cluster films. *G.E. Johnson, J. Warneke, J. Laskin, V. Prabhakaran, A. Federov*

4:00 ANYL 86. *In situ* infrared and electrochemistry approach for studying the structural evolution of soft-landed ions at electrochemical interfaces. *P. Su, V. Prabhakaran, G.E. Johnson, J. Laskin*

SECTION F

Boston Convention & Exhibition Center
Room 107A

Nanoelectroanalytical Chemistry for Biological & Material Sciences

S. Amemiya, *Organizer, Presiding*
A. Boika, *Presiding*

1:30 Introductory Remarks.

1:35 ANYL 87. Boron-doped diamond and tetrahedral amorphous carbon: Next-generation electrodes for electroanalysis. *G. Swain*

2:10 ANYL 88. AC polarized microelectrodes as a novel tool for electroanalysis: Collisions and more. *A. Boika, J.A. Bonezzi, A. Frkonia-Kuczyn, Z. Zhao*

2:45 ANYL 89. Nanoemulsions for biomedical/ electrochemical application: A comprehensive study on the nanostructural effect. *J. Kim*

3:20 Intermission.

3:35 ANYL 90. Quantitation with differential scanning ion conductance microscopy. *L.A. Baker*

4:10 ANYL 91. Studying acetylcholine neurotransmission at single synapse with nanoelectrodes. *M. Shen*

4:45 ANYL 92. Nanoscale scanning electrochemical microscopy for overcoming limitations of microscale electroanalysis. *S. Amemiya*

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC
Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Environmental Nanometrology

Sponsored by ENVR, Cosponsored by ANYL and GEOC

SETAC-ENVR Joint Symposium: Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans

Sponsored by ENVR, Cosponsored by ANYL and GEOC
Advances in Sensors & Biosensors for Environmental Monitoring

Sponsored by ENVR, Cosponsored by ANYL and BIOL

SUNDAY EVENING

SECTION G

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Analytical Division Poster Session

L. A. Baker, *Organizer*

7:00 – 9:00

ANYL 93. Novel signal amplifiable mercury detection method based on DNA conjugated upconversion nanoparticles. *A. Nanattuchirayil Vijayan, P. Zhang*

ANYL 94. Characterization of the non-covalent interactions between poly(styrene sulfonate) and peptides using multistage tandem mass spectrometry. *B. Wei, S. Gerislioglu, M. Atakay, B. Salih, C. Wesdemiotis*

ANYL 95. A disposable label-free amperometric immunosensor based on poly(vinyl alcohol-co-ethylene) nanofibers for detecting residual antibiotics in foods. *A. El-Moghazy, C. Zhao, Y. Si, N. Amaly, G. Sun*

ANYL 96. Electrochemical monitoring of protein-driven silver nanoparticle dissolution. *Z.J. O'Dell, D. Boehmle, K. Wheeler, K.R. Riley*

ANYL 97. Biosensors printed on paper and embedded with functional nanoparticle assemblies for human performance monitoring. *S. Yan, C.S. Soni, B.L. Perris, S.E. Ruiz, C.L. Ghazvini, J. Lombardi, J. Luo, B.S. Hsiao, M.D. Poliks, C. Zhong*

ANYL 98. Low-voltage driven portable paper bipolar electrode-supported electrochemical sensing device. *C. Wang, W. Liao*

ANYL 99. Highly sensitive non-enzymatic lactate biosensor driven by porous nanostructured nickel oxide. *K. Sungjin, W. Yang, H. Kim, Y. Park, H. Lee, S. Seo*

ANYL 100. Developing tools for high resolution mass spectrometry-based screening via the EPA's CompTox Chemistry Dashboard. *A. McEachran, K. Mansouri, H. Al-Ghoul, C. Grulke, J. Sobus, A.J. Williams*

ANYL 101. Synthesis and characterization of pyridine carboxaldehydes Schiff bases and derivatives and their applications as chemical sensors. *M.K. Hussein, Y.M. Hijji*

ANYL 102. On-line detection of Ag nanoparticles released from household water purification filters by electrodiolyzer-single particle ICP-MS. *F. Lin, C. Chang, L. Yf-hung, I. Hsu*

ANYL 103. Construction of low-cost biamperometry microscale equipment with local materials for Karl Fischer water titration. *F.J. Olvera-Garcia, A.D. Garcia Mendoza, A. De Santiago-Zarate, A. Baeza Reyes*

ANYL 104. Electrochemical reactions at microelectrode arrays. *N. Siepser, B. Choi, S. Jeong, X. Ye, L.A. Baker*

ANYL 105. Immuno-capture laser ionization mass spectrometry: Gold and silver nanoparticles as mass tags for high mass protein imaging. *Y. Cheng, T. Tam, S. Chau, S. Lai, K. Ng*

ANYL 106. Comparison of stirbar sorptive and liquid extraction techniques via volatile analysis of blood orange fruit pulp. *B. Gates, A. Tucker, R. Weiland*

ANYL 107. Identification of the decarboxylated analog of Pigment Red 57 and its quantification in the color additives D&C Red Nos. 6 and 7 using UHPLC. *M. Perez-Gonzalez, C.D. Ridge, J. A. Weisz*

ANYL 108. Preparation of a new graphene based biosensor modified with nanoparticles and nafion for the detection of glucose. *D. Akin*

ANYL 109. Hydrazine functionalized probes for chromogenic and fluorescent ratiometric sensing of pH and F through experimental and theoretical studies. *A. Roy Chowdhury, P. Banerjee*

ANYL 110. High throughput and micro-scale purification of mucins. *W.W. Wu, J. Phue, S. Yang, J.F. Cipollo, G. Zou, T. Ju, R. Shen*

ANYL 111. Synthesis, optimization, and bioconjugation of electrochemically synthesized magnetic nanoparticles to induce irreversible damage to Glioblastoma invasive rim cells. *M.A. Tovar, L.C. Giancarlo*

ANYL 112. Electrochemical detection of bacterial 16S rRNA gene using a biosensor based on poly-adenine tailed DNA probe. *L. Li, Y. Li, Y. Wen, L. Wang, W. Liang, X. Yang, J. Meng, M. Duan, M. Ding, G. Liu*

ANYL 113. Absolute quantitation of cardiolipin, phosphatidylglycerol, and lysyl-phosphatidylglycerol using HILIC based separation coupled to a Q Exactive Plus mass spectrometer. *E.D. Tague, J. Harp, B. Woodall, E. Fozo, S.R. Campagna*

ANYL 114. Controllable design of polycrystalline synergistic electrochemical biosensors for antineoplastic drug in mammalian cells. *H. Zhou, J. Masson, Q. Song*

ANYL 115. Electrochemical sensor for sensitive and selective detection of liver cancer cells based on folic acid and octadecylamine functionalized graphene aerogel. *R. Li*

ANYL 116. Liquid extraction through nanopipette probes for mass spectral analysis. *G. Jagdale, N. Siepser, L.A. Baker*

ANYL 117. Optical fiber based localized surface plasmon resonance biosensor prepared by self-assembled gold nanoparticles on block copolymer monolayer. *M. Lu, H. Zhu, C. Bazuin, W. Peng, J. Masson*

ANYL 118. A novel reverse polarity negative ion mode capillary isoelectric focusing - Mass spectrometry method for the separation and online characterization of glycosaminoglycan. *H. Xiaorui, R.J. Linhardt*

ANYL 119. Detection and characterization of dopamine dynamically using electrochemical impedance spectroscopy. *J. Reyes Morales, N.M. Rivera Serrano, C. Fuster, L. Cunci*

ANYL 120. Protein adsorption on nanoscale diblock copolymer surfaces. *A. Misiura, N. Moringo, C. Dutta, H. Shen, C.F. Landes*

ANYL 121. Structural analysis and potential applications of non-anticoagulant heparin. *O. Yilan, R.J. Linhardt, F. Zhang*

ANYL 122. An enzymatic electrochemical biosensor for real-time nicotine detection. *U. Kuzmanovic, M. Chen, M.A. Tararina, N.S. Shu, A. Balijepalli, M. Zamani, A. Fan, C. Klapperich, K.N. Allen, M.W. Grinstaff, J. Galagan*

ANYL 123. Optimizing subsecond guanosine detection using fast-scan cyclic voltammetry. *M.T. Cryan, A.E. Ross*

ANYL 124. Effect of relative humidity on the phase and chemical properties of *cis*-3-hexenyl acetate derived secondary organic aerosol. *K.B. Fischer, G. Petrucci*

ANYL 125. Fast determination of β -cyclodextrin-Guest binding constants by fluorescence spectroscopy approach. *X. Zhou*

ANYL 126. Development of a sandwich-typed assay for nucleic acids using surface-enhanced Raman scattering. *R. Ota, A. Kobori*

ANYL 127. Melanin extraction and concentration analysis from *Dumetella carolinensis* feathers. *J. Esposito, W.B. Hammert, R. Smith, M. Hatch, K.A. Stumpo*

ANYL 128. Esterification of phosphonic acids in organic matrices for their enhanced detection by EI-GC-MS. *C.A. Valdez, R.N. Leif*

ANYL 129. Methylation of phosphonic acids related to nerve agents and their subsequent analysis by EI-GC-MS and GC-FPD. *C.A. Valdez, R.N. Leif, S. Hok, A. Alcaraz*

ANYL 130. Highly sensitive, colorimetric, paper-based devices for the detection of nitrate in marine ocean environments. *T. Mako, J. Racicot, M. Levine*

ANYL 131. Cobalt oxide multiwalled carbon nanotube composites for dopamine sensing. *M. Kader, C. Chusuei*

ANYL 132. Colorimetric BRCA1 detection based on a 3D DNA nanostructure reporter probe. *Y. Wen, Y. Li, L. Li, X. Yang, L. Wang, W. Liang, M. Ding, G. Liu*

ANYL 133. Modification of cellulose with cyclodextrin derivatives for solid state detection of toxicants. *J. Racicot, T. Mako, M. Levine*

ANYL 134. Construction and characterization of solid-state sensors based on tungsten oxides used for the determination of acidity in dairy samples. *D.V. Gutiérrez Nuñez, A.d. Garcia Mendoza, J.C. Aguilar, A. Baeza Reyes*

ANYL 135. Surface-enhanced Raman detection of glucose on different substrates for biosensing applications. *L. Alqarni*

ANYL 136. Chemiluminescent aptasensor capable of rapidly sensing prostate-specific antigen in human serum using a dual-aptamer and paramagnetic bead. *K. Kim, M. Kim, P. Park, J. Lee*

ANYL 137. Cost-effective and easy-to-use biosensor capable of rapidly sensing MicroRNA-25 for the early diagnosis of human cancer. *P. Park, K. Kim, M. Kim, J. Lee*

ANYL 138. Simultaneous analysis of sugar components in ¹⁸F-FDG injection as their PMP derivatives by high performance liquid chromatography on a UV detector. *R.N. Nair, A. Lebedev*

ANYL 139. Double chemiluminescence enzyme immunoassays capable of simultaneously quantifying CA 19-9 and CEA in a sample. *Y. Lee, H. Moon, J. Lee*

ANYL 140. Electrochemiluminescence DNA biosensor for Hg(II) based on the catalysis of MoS₂-Au-hemin nanocomposites and the signal amplification of luminal. *T. Kang*

ANYL 141. Chemiluminescent biosensor for the early diagnosis of prostate cancer utilizing two distinct biomarkers. *J. Chong, J. Lee*

ANYL 142. Positive feedback and theory in hot-tip scanning electrochemical microscopy. *Z. Zhao, A. Boika*

ANYL 143. Investigations in magnesium battery technology. *B. Basanty, S. Cora, N. Sa*

ANYL 144. Control membrane fouling in membrane distillation. *M. Humoud*

ANYL 145. Instrumental analysis of methyl salicylate, both commercially and experimentally derived. *M. Pizana, H. Price, J.R. Cole*

ANYL 146. Enhanced detection of lead and arsenic using electrokinetic techniques coupled with stripping voltammetry. *J.A. Bonezzi, A. Hohenshil, A. Boika*

ANYL 147. Targeted metabolomics reveals altered fatty acid metabolism in the host by Huanglongbing disease. *J. Suh, Y. Niu, Z. Wang, F. Gmitter, Y. Wang*

ANYL 148. Analysis and identification of ppb levels of VOC's in ambient air via GC-PID-FID. *J.N. Driscoll, J.L. MacLachlan*

ANYL 149. Determination of benzocaine concentrations in aqueous solutions using carbon screen-printed electrodes and cyclic voltammetry. *D.E. Martyn, S.K. Buehler*

ANYL 150. Distributed Pharmaceutical Analysis Laboratory (DPAL): Metformin analyzed via HPLC. *M. Alamgir, B. Boleslav, R.E. Goacher*

ANYL 151. Density, conductivity, and viscosity of 1-ethyl-3-methylimidazolium methylphosphonate ionic liquid and the effect of adding molecular liquids. *M. Thakurathi, V. Thalangaarachchige, E.L. Quitevis*

ANYL 152. Detection and characterization of ZnO nanoparticles in seawater using SP-ICPMS coupled with electrodiolyzer. *I. Hsu, Y. Liu, F. Lin*

ANYL 153. Establishing baseline sensitivity data using LCMS/MS to investigate dermal *in-vitro* absorption toxicological application: Applications in analytical chemistry. **A.H. Patel, P. Trivedi, N.A. Khan**

ANYL 154. Electrochemical sensor for diethylstilbestrol based on magnetic imprinted nanoparticles. **T. Kang**

ANYL 155. Photocatalytic water-splitting BiVO₄ incorporated in various biomass-derived scaffolds. **A. Basurrah, D. Nde, W. Zhao**

ANYL 156. Electrochemical paper-based devices for oral preventative care through pH sensing. **A. Metangmo, R. Barron, F. Deiss**

ANYL 157. Selectivity characterization of five achiral stationary phases using supercritical fluid and hydrophilic interaction chromatography. **E.G. Franklin, M. Wilcox, G. Lowden, T. Szczerba**

ANYL 158. Evaluating DNA oxidation caused by e-cigarette and cigarette smoke: Using 3-D printed ECL arrays and LC-MS. **T.K. Nipuni, A. Ghosh, M. Shen, T. Keyes, J. Rusling**

ANYL 159. Monitoring the response of epithelial cells to drug molecules with potentiometric-scanning ion conductance microscopy. **K. Huang, J. Hou, L.A. Baker**

ANYL 160. Formation of biofilm microenvironment in microfluidic system for investigating antimicrobial materials. **J. Son, W. Kim, S. Kim, H. Cho, E. Cho, J. Jeon**

ANYL 161. Sensor fusion for biological imaging. **J. Askim, S. Semancik**

ANYL 162. Real-time biosensor capable of quantifying triple biomarkers for diagnosing diabetes. **E. Park, B. Kim, J. Lee**

ANYL 163. Manganese oxide nanosheets on quartz crystal microbalance for detection of methylmercaptan gas. **Y. Tokura, G. Nakada, Y. Oaki, H. Imai, S. Shiratori**

ANYL 164. Enhanced detection of methylmercaptan gas using proton containing layered manganese oxide nanosheets coated on quartz crystal microbalance. **N. Kawamura, Y. Tokura, G. Nakada, Y. Oaki, H. Imai, S. Shiratori**

ANYL 165. Conformational behaviour and molecular weight of novel anti-IgM G-quadruplex forming aptamers. **F. Moccia, D. Musumeci, C. Platella, J. Bradshaw, P. Mallikaratchy, D. Montesarchio**

ANYL 166. Prediction of polybrominated diphenyl ether retention times via *Ab Initio* calculations. **A. Izydorczak, S. Simpson**

ANYL 167. Development of a robust capillary electrophoresis methodology for direct quantification of free doxorubicin in liposomal doxorubicin formulations in plasma. **M. Mohamed Ansar, T. Mudalige**

ANYL 168. Tunable chemical sensing interfaces using dendronized nanoparticles coupled with nanofibrous paper substrates. **S. Yan, B.L. Perris, C.S. Soni, S.E. Ruiz, C.L. Ghazvini, J. Lombardi, J. Luo, B.S. Hsiao, S. Lu, M.D. Poliks, I.G. Ivanov, C. Zhong**

ANYL 169. A correlated optical and electrochemical approach to probing electrocatalysis at individual nanostructures. **P. Saha, J. Walmsley, J. Hill, C.M. Hill**

ANYL 170. Self-powered, wireless continuous glucose sensing system based direct electron transfer. **I. Lee, N. Loew, W. Tsugawa, K. Ikebukuro, K. Sode**

ANYL 171. New sensing scheme based on magnetic relaxation to detect DNA. **R. Nogueira e Silva, P. Zhang**

ANYL 172. Analysis of lipid binding to gold nanoparticle from lipid vesicles. **X. Zhang, C.J. Murphy**

ANYL 173. SERS detection of polycyclic aromatic hydrocarbon compounds through β -cyclodextrin modified Au nanoparticles. **Z. Yu, H. Sorensen, M. Grasso, P. Zhang**

ANYL 174. Effects of nanoparticle size and shape on cellular uptake: A single particle approach. **J. Hill**

ANYL 175. Analysis of ethyl glucuronide in oral fluid using LC-MS/MS and DART-TOFMS with SPME pre-concentration. **K. Romano-Pringle, J.F. Morrison, C.M. Selavka**

ANYL 176. Direct analysis by HR-CS GF-AAS. An easy way to fast and accurate results. **M. Schneider, H. Cadorim, L. Da Rocha, B. Welz**

ANYL 177. Nanoparticle-enhanced biosensors: amperometric detection of hydrogen peroxide and biomarkers. **M. Kozma, J. Li, S. Yan, S. Shan, A. Koh, C. Zhong**

ANYL 178. Aptamer-based field-effect transistor nanobiosensor arrays for the simultaneous detection of neurotransmitters. **L.K. Heidenreich, L. Scarabelli, K. Yang, M. Stojanovic, P.S. Weiss, A.M. Andrews**

ANYL 179. Noble metal nanoparticles-based protein microarray. **Y. Cheung, T. Tam, Y. Cheng, K. Ng**

ANYL 180. Biphasic-scanning ion conductance microscopy (BP-SICM). **L.A. Baker, M. Choi**

ANYL 181. Using isotope substitution to study high-temperature vapor-phase chemical pathways. **D. Weisz**

ANYL 182. A rapid and economical analytical method for the quantification of H₂O₂ in industrial treated effluents. **A. Ghauch, O.N. Tantawi, A. Baalbaki, R. El Asmar**

ANYL 183. Terahertz multispectral reconstructive imaging of nanomaterials with sub-nanometer resolution. **A. Rahman**

ANYL 184. Cellulose nano-composites nanostructure characterized by terahertz reconstructive imaging and spectroscopy. **A. Rahman, K. Nelson, D. Afzal, M. Parvin**

ANYL 185. Chemically modified cellulose nano-composites for strong UV reflection and hydrophobicity. **D. Afzal, M. Parvin, A. Rahman**

ANYL 186. Terahertz vibrational mode imaging of molecules in real-time. **S.R. Kothapalli, A. Dangi, S. Agrawal, G.R. Datta, A.K. Rahman, A. Rahman**

ANYL 187. Self-standing aptamers by an artificial defect-rich matrix. **C. Chen, W. Liao**

ANYL 188. Highly sensitive bio-recognition of cancer cells based on biosynthesized nanoclusters. **X. Wang**

ANYL 189. Second harmonic generation microscopy of API nucleation and growth. **S. Sarkar, G.J. Simpson**

ANYL 190. Cardboard, string, and a hacksaw: Productive no-cost modifications to open-bed autosamplers. **S. Tentarelli**

ANYL 191. Dual-emitting carbon dots-based nanothermometers. **H. Tantan**

ANYL 192. Novel electrochemical microfluidic chip for multicomponent analysis in renal function examination. **Y. Li, J. Liu**

ANYL 193. Rapid detection of enzymes, viruses, and bacteria using glucose meters. **A. Das, V. Chivukula, S.S. Iyer**

ANYL 194. Determination of zinc oxide in sunscreen using ion chromatography with visible absorbance detection. **H. Yang**

ANYL 195. Determination of gentamicin and related impurities in gentamicin sulfate. **J. Hu, J. Rohrer**

ANYL 196. Rapid antimicrobial susceptibility test based on large-volume light scattering microscopy. **M. Mo**

ANYL 197. Development of infrared library search prefilters for automotive clear coats from simulated attenuated total reflection spectra. **B.K. Lavine, U. Perera, K. Nishikida**

ANYL 198. Structural base analysis of production and purification of human leukemia Interferon. **Y.S. Ting**

ANYL 199. In-situ growth of well-ordered NiFe-MOF-74 on Ni foam by Fe²⁺ induction as an efficient and stable electrocatalyst for water oxidation. **C. Xu**

ANYL 200. V₂O₅ nanosheets as nanzyme with peroxidase-like activity for rapid and sensitive detection of glutathione. **A.B. Ganganboina, R. Doang**

ANYL 201. Single-nucleotide polymorphism detection via ultrathin-film field-effect transistors. **K.M. Cheung, J.M. Abendroth, N. Nakatsuka, B. Zhu, Y. Yang, A.M. Andrews, P.S. Weiss**

ANYL 202. Metabolic mechanism of cysteine-protected fluorescent gold nanoclusters in *Escherichia coli*. **T. Chang, K. Chen, S. Tan, J. Kuo, X. Pan, T. Kuo**

ANYL 203. Non-fouling, encoded hydrogel particles for multiplex microRNA profiling directly from formalin-fixed paraffin embedded tissue. **M.B. Nagarajan, A. Tentori, W. Zhang, F. Slack, P.S. Doyle**

ANYL 204. Development of an electrochemical detection system for CpG methylation of human genome using methyl CpG binding domain and zinc finger protein. **J. Lee, W. Yoshida, D. Hiraoka, A. Tatsumi, K. Abe, K. Nakabayashi, H. Wakeda, K. Hata, C. Marquete, L.J. Blum, K. Sode, K. Ikebukuro**

ANYL 205. Multiplex microRNA assays from raw cells in isolated nanoliter well arrays. **A.M. Tentori, M.B. Nagarajan, J. Kim, W. Zhang, F. Slack, P.S. Doyle**

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 104A

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Cosponsored by BIOL, COLL, MPPG and PHYS
X. Xu, Organizer, Presiding

8:00 ANYL 206. Controlling cellular architecture and fate with nanopatterned substrates. **C.A. Mirkin**

8:30 ANYL 207. Biomimetic nanoparticles and cellular functions. **N. Kotov**

9:00 ANYL 208. Investigation of chemical constituents responsible for PM_{2.5} induced oxidative stress using synthesized carbon black nanoparticles. **K. Zhao, L. Guo**

9:30 ANYL 209. Quantifying the cellular uptake and sub-cellular distributions of nanoparticles. **Y. Xia**

10:00 Intermission.

10:10 ANYL 210. Stimuli-responsive control of gold nanoparticle cellular uptake using host-guest interactions. **J. Mosquera Mosquera, M. Henriksen-Lacey, I. Garcia, M. Martinez-Calvo, J. Rodriguez, J.L. Mascarenas, L. Liz Marzan**

10:40 ANYL 211. 3D single particle tracking discloses diffusion modes on solid supported lipid bilayer. **Y. Zhong, G. Wang**

11:10 ANYL 212. Big data from little objects: Omics results from nanoparticle/cell systems. **C.J. Murphy**

11:40 ANYL 213. Detection and characterization of single polymer nanoparticles with surface plasmon resonance imaging microscopy. **A. Maley, B. Matthews, R.M. Corn**

SECTION B

Boston Convention & Exhibition Center
Room 104B

Technical Developments & Applications of Optical Chemical Imaging

Cosponsored by BIOL⁺, COLL and PHYS⁺
G. Wang, Organizer

N. Fang, Organizer, Presiding

9:00 ANYL 214. Monitoring the interactions of small organic molecules at lipid membrane interfaces. **P.S. Cremer**

9:25 ANYL 215. Spectrally resolved and functional super-resolution microscopy via ultrahigh-throughput single-molecule spectroscopy. **K. Xu**

9:50 ANYL 216. Single-molecule imaging methods to understand the kinetics of three-component DNA-hybridization systems. **E.M. Peterson, W. Li, M.W. Manhart, F.D. Morris, J.M. Harris**

10:15 Intermission.

10:30 ANYL 217. Tracking molecules and nanoparticles to probe confined environments. **D.K. Schwartz**

10:55 ANYL 218. Spectroscopic single molecule tracking and related methods for probing the local dielectric properties of nanomaterials. **D.A. Higgins, D. Giri, R. Kumarashinghe, Z. Li, H. Xu, M.M. Collinson, T. Ito**

11:20 ANYL 219. Surface diffusion of nanocar molecules disclosed by single molecule fluorescence microscopy. **T. Jin, V. Garcia-Lopez, J.M. Tour, G. Wang**

11:35 ANYL 220. Protein dynamics on the stimuli-responsive nanogel surface and inside nano-cavities. **C. Dutta, A. Misiura, N. Moringo, C.F. Landes**

SECTION C

Boston Convention & Exhibition Center
Room 104C

Wearable & Implantable Sensors

M. A. Daniele, L. Deravi, Organizers, Presiding

8:30 Introductory Remarks.

8:35 ANYL 221. A wearable colorimetric dosimeter to prevent UV-induced skin damages. **J. Wang, A. Jeevarathinam, J.V. Jokerst**

8:55 ANYL 222. Natural light-scattering nanoparticles enable visible through short-wave infrared color modulation. **A. Kumar, R.M. Osgood, L. Deravi**

9:15 ANYL 223. UV-sun exposure monitoring using a wearable sensor made of nanocellulose. **E. Morales-Narvaez**

9:45 ANYL 224. Sensing electronics on ultra-thin nanocellulose sheets. **J.D. Yuen, S. Walper, D. Zabetakis, M.A. Daniele, B. Ratna, D.A. Stenger**

10:15 Intermission.

10:30 ANYL 225. Protein-based hydrogel as a material for actuating a jointed scaffold. **C.M. Gomes, C. Liu, S.M. Felton, L. Deravi**

10:50 ANYL 226. A biomimetic coating for intracutaneous sensors and devices. **R. Parker, A. Trent, M. VanDyke, T. Zarkovic Grove**

11:20 ANYL 227. Rapid prototyping of bioinspired materials for biosensing. **Y. Chan, A. Hosseini, M. Skreta, H. McPhee, J. Yang, M. Hasan, L. Soleymani**

SECTION D

Boston Convention & Exhibition Center
Room 105

Nanozymes for Bioanalysis

H. Wei, Organizer, Presiding

8:30 Introductory Remarks.

8:35 ANYL 228. Nanozymes: Enzymatic activities, catalytic mechanisms and extensive applications in biomedicine. **X. Yan**

ANYL

9:05 ANYL 229. Bioorthogonal chemistry for imaging and therapeutics using engineered nanoparticle 'nanozymes'. *V.M. Rotello*

9:35 ANYL 230. Surface modified nanozymes as biosensors. *J. Liu*

10:00 ANYL 231. Point of care bioassay system based on enzyme-mimetic nanomaterials. *J. Lee*

10:25 ANYL 232. Peroxidase-mimicking microgels fabricated by encapsulation of ionic nanoparticles and their applications in biomarker detection. *W. Zhong, Y. Liu, Q. Jiang*

10:50 ANYL 233. Metal nanomaterials with enzymes like activities for quantitation of small analytes. *H. Chang*

11:15 ANYL 234. Catalytic nanomaterials for amplified biosensing. *C. Loynachan, M. Thomas, E. Gray, D. Richards, V. Chudasama, R. McKendry, M. Stevens*

11:35 ANYL 235. Metal-organic frameworks in biomimetic applications. *M. Xu, Z. Gu*

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Chemical Forensics

C. Fraga, Organizer, Presiding

8:00 Introductory Remarks.

8:05 ANYL 236. Analytical chemistry in support of investigations of alleged use. *M. Blum*

8:25 ANYL 237. Sampling for chemical weapons in hostile environments for forensic analysis. *L. Phillips*

8:45 ANYL 238. The role of chemical forensics research in the investigative process. *R.I. Bull*

9:00 ANYL 239. Comparison of targeted and non-targeted approaches in source attribution of sulphur mustard. *R. Norlin, K. Hojer Holmgren, D. Wiktelius, A. Larsson, L. Ahlinder, C. Astot*

9:20 ANYL 240. Chemical profiling and source attribution of sulfur mustard. *J. Riches, C. Timperley, W. Rebecca, S. Sarah*

9:40 ANYL 241. Chemical attribution signature study on synthetic routes of VX. *S. Hok, R.N. Leif, K.E. Mason, D. Mew, A. Vu, L. Carman*

10:00 Intermission.

10:20 ANYL 242. Signatures of sarin exposure in authentic human samples. *D. Noort, M. van der Schans*

10:40 ANYL 243. Statistical analysis of the chemical attribution signatures of crude sarin. *B.P. Mayer, S. Hok, C.A. Valdez, A.M. Williams*

11:00 ANYL 244. Using stable carbon isotope ratios ($\delta^{13}C$) to source the nerve agent precursor methylphosphonic dichloride and its products. *J. Moran, C. Fraga, M.K. Nims*

11:20 ANYL 245. An overview of evidence evaluation methods in forensic chemistry using likelihood ratios. *D. Ramos*

11:40 ANYL 246. Adsorption and desorption study of a nerve-agent simulant from office materials for forensic applications. *C. Fraga, O.M. Primera-Pedroza, M. Zumbach, A. Breton-Vega, B.P. Wilkins*

SECTION F

*Boston Convention & Exhibition Center
Room 107A*

Analysis of Materials for Energy Storage

Cosponsored by ENFL

N. Sa, Organizer, Presiding

8:00 Introductory Remarks.

8:05 ANYL 247. Interfacial characterizations on alumina coated cathode materials for lithium-ion batteries. *B. Han, B. Key, S.H. Lapidus, J.C. Garcia, H. Iddir, J.T. Vaughey, F. Dagan*

8:30 ANYL 248. Aqueous zinc batteries. *C. Wang, F. Wang, O. Borodin, T. Gao, X. Fan, W. Sun, F. Han, A. Faraone, J. Dura*

9:00 ANYL 249. Toward stable Li-O₂ battery operations using a water-in-salt electrolyte. *D. Wang, Q. Dong, Y. Zhao, Y. He*

9:30 ANYL 250. Increased cycling performance of Li-ion batteries by phosphoric acid modified LiNi_{0.9}Mn_{0.1}O₂ cathodes in the presence of LiBOB. *M. Yapa Abeywardana, N. Laszczynski, M. Kuenzel, D. Bresser, S. Passerini, B.L. Lucht*

9:55 Intermission.

10:05 ANYL 251. In-situ TEM observation on the correlation of electrochemical properties with structural and chemical evolution of electrode materials in rechargeable batteries. *C. Wang*

10:35 ANYL 252. Effect of fluoroethylene carbonate electrolytes on the nanostructure of the solid electrolyte interphase and performance of lithium metal anodes. *Z. Brown, S. Jurng, B.L. Lucht*

11:05 ANYL 253. Applications of environmental TEM in energy materials. *J. Li*

11:35 ANYL 254. A new family of sulfonimide salts: Structure-property relationships for battery application. *S. Feng, M. Huang, Z. Wenxu, L. Giordano, J.A. Johnson, Y. Shao-Horn*

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINP, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

Pesticide Spray Drift: Application, Evaluation & Mitigation

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Environmental Health & Safety of Emerging Chemicals & Technologies

Sponsored by ENVR, Cosponsored by AGRO², ANYL and CEI

Advances in Sensors & Biosensors for Environmental Monitoring

Sponsored by ENVR, Cosponsored by ANYL and BIOL

MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center

Room 104A

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Cosponsored by BIOL, COLL, MPPG and PHYS

X. Xu, Organizer, Presiding

1:00 ANYL 255. Applications of nanosensors to understanding biochemical signaling within the human body. *M. Strano*

1:30 ANYL 256. On-a-chip biosensing with optical nano-resonators. *R. Quidant*

2:00 ANYL 257. Biosensing devices-from single cell analysis to organ on a chip. *C. Li*

2:30 ANYL 258. Radioluminescent phosphors as local light sources within tissue: Opportunities and challenges for chemical sensing and control. *J.N. Anker, G.B. Schober, M.J. Case, U. Uzair, M. Arifuzzaman, H. Chen, S. Beladi-Behbahani, J. Tzeng*

3:00 Intermission.

3:10 ANYL 259. Beyond biomarkers: Array-based profiling for diagnostics and geno-/phenotypic screening for precision medicine. *V.M. Rotello*

3:40 ANYL 260. Intracellular ion monitoring in neurons tracked by modular ratiometric nanosensors. *G. Rong, E. Kim, H. Clark*

4:00 ANYL 261. Monitoring single cell release of non-redox active gliotransmitters using electrochemical aptamer-based sensors. *R.A. Lazenby, R.J. White*

4:20 ANYL 262. Ultrabright fluorescent silica nanosensors for dual pH and temperature measurements. *S. Peerzade, M. Miljkovic, I. Sokolov*

4:40 ANYL 263. Nanopore-based biosensor for lead ion detection using a Cys₄ zinc-finger motif. *G. M. Roozbahani, X. Guan, Y. Zhang*

SECTION B

*Boston Convention & Exhibition Center
Room 104B*

Technical Developments & Applications of Optical Chemical Imaging

Cosponsored by BIOL², COLL and PHYS²

N. Fang, Organizer

G. Wang, Organizer, Presiding

1:30 ANYL 264. Imaging molecular conductance at optical frequencies in plasmonic molecules. *B.M. Reinhard*

1:55 ANYL 265. Single-molecule imaging in catalytic polymerization. *S. Blum*

2:20 ANYL 266. Plasmonic imaging of electrochemical and photochemical activity of single nanoparticles. *W. Wang*

2:45 Intermission.

3:00 ANYL 267. Nonclassical optics enabled imaging of single reactions. *D. Han, K. Fu, G. Crouch, S. Kwon, P.W. Bohn*

3:25 ANYL 268. Developing optical imaging techniques to measure the chemical reaction at single nanoparticle level. *X. Shan*

3:50 ANYL 269. Scanning angle and directional Raman measurements of the chemical composition and thickness of thin films. *E.A. Smith, C. Nyamekye, S. Weibel, J.M. Bobbitt*

4:15 ANYL 270. Three-dimensional mapping of optical near-field responses by controlling probe-sample distance. *H. Wang, X. Xu*

SECTION C

*Boston Convention & Exhibition Center
Room 104C*

Wearable & Implantable Sensors

M. A. Daniele, L. Deravi, Organizers, Presiding

1:30 ANYL 271. Ultrathin shell biosensors for 3D live cell studies. *W. Xu, Q. Jin, D.H. Gracias*

1:50 ANYL 272. Designer hydrogel ionic circuits for biologically-matched electronics. *S. Zhao, F. Omenetto, D.L. Kaplan*

2:10 ANYL 273. Electroactive protein-based actuators. *L. Deravi*

2:40 ANYL 274. Biodegradable piezoelectric force sensor. *T. Nguyen, E. Curry*

3:10 Intermission.

3:25 ANYL 275. Functional multilayer nanomeshes for advanced bio-recording and stimulating microelectrodes. *H. Fang*

3:55 ANYL 276. Hydrogel-based electronics: Ultracompliant electrodes for neural interfaces and beyond. *C.J. Bettinger*

4:25 ANYL 277. Additive manufacturing of ingestible gastric resident biomedical electronics. *Y. Kong*

SECTION D

*Boston Convention & Exhibition Center
Room 105*

Nanozymes for Bioanalysis

H. Wei, Organizer, Presiding

1:30 ANYL 278. Nanoenzymes for analytical applications. *I. Willner*

2:00 ANYL 279. Peptide-conjugated gold nanoprobe:intrinsic nanozyme-linked immunosorbant assay of integrin expression level on cell membrane. *L. Gao, X. Gao*

2:30 ANYL 280. Nanoceria antioxidative mimetic enzymes. *S. Seal, W. Self, K. Liechty, P. Brenneisen*

2:55 ANYL 281. Biomimetic NanoZyme sensors: From environmental to clinical diagnostics. *V. Bansal, R. Ramanathan, P. Weerathunge, N. Karim*

3:20 ANYL 282. Ceria nanoparticles as nanoenzyme mimetics: Properties, assembly and bioanalytical applications. *F. Mustafa, A.S. Finny, A. Othman, E. Andrescu*

3:45 ANYL 283. Nucleotide-dependent tunable peroxidase-like activity of gold nanozymes for bioanalysis. *M.V. Yigit, M. Hizir*

4:10 ANYL 284. Metal nanocrystals as peroxidase mimics for biosensing applications. *X. Xia*

4:35 ANYL 285. Nanozymes for *in vitro* detection and live bioassays. *H. Wei*

4:45 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Chemical Forensics

C. Fraga, Organizer, Presiding

1:15 Introductory Remarks.

1:20 ANYL 286. Applications of the US EPA's CompTox Chemistry Dashboard to support structure identification and chemical forensics using mass spectrometry. *A.J. Williams, A. McEachran, J. Sobus, E. Schymanski*

1:40 ANYL 287. Latest developments and applications of position-specific isotope analysis by NMR spectrometry. *G. Rемаud, V. Joubert, S. Akoka, M. Grand, V. Silvestre, B. Charrier*

2:05 ANYL 288. Carbon stable isotope ratios from 13C satellite peaks in 1-D 1H NMR spectra. *J.R. Cort, S. Colby*

2:25 ANYL 289. Validation of forensic fire debris data interpretation. *M. Sigman*

2:45 ANYL 290. Establishing the relevance of chemical forensics methods. *K. Jarman*

3:05 Intermission.

3:15 ANYL 291. Chemical profiling of explosives to create new opportunities for forensic investigation and intelligence. *M. Koeberg, K. Bezemer, P. Schoenmakers, A.v. Heijden, A.v. Asten*

3:40 ANYL 292. Geographic sourcing of heroin using trace elements and strontium isotope ratios. *J.R. Almirall, J. DeBord, A. Pourmand, S. Jantzi*

4:00 ANYL 293. Authentication of edible food oils using raman spectroscopy. *B.K. Lavine, F. Kwofie, I. Uba, M. Bamidele, K.S. Booksh, J. Ottawa*

4:20 ANYL 294. Density-based separation of powdered mixtures using magnetic levitation simplifies sample preparation for spectroscopic analysis and enables rapid fingerprinting of adulterants in illicit drugs. *C.K. Abrahamsson, G.M. Whitesides*

4:40 ANYL 295. In-field electrochemical detection of chlorate for explosives assessment. *K. Kukoyi, D. Wilkins, F. Deiss*

SECTION F

*Boston Convention & Exhibition Center
Room 107A*

Analysis of Materials for Energy Storage

Cosponsored by ENFL

N. Sa, Organizer, Presiding

1:00 ANYL 296. Novel solid state battery electrolyte conductors, phase evolution and processing. *J. Rupp*

1:30 ANYL 297. Decipher electronic and structural evolution of lead-free perovskite using transient X-ray absorption spectroscopy. *X. Zhang, C. Liu, K. Zheng, D.J. Gosztola, S. Canton*

1:55 ANYL 298. Analysis of MXenes in electrochemical energy storage applications. *M. Naguib, Y. Gogotsi*

2:20 ANYL 299. Surface restructuring-induced catalytic reactivity of transition metal phosphide nanoparticles under electrochemical conditions. *H. Wang*

2:45 Intermission.

2:55 ANYL 300. Plasmonic nanowire and graphene for solar water splitting. *C. Yang*

3:20 ANYL 301. Structural dynamics of bismuth cathodes during the electrochemical reduction of CO₂ in the presence of RTILs. *J. Rosenthal*

3:45 ANYL 302. IR and Raman spectroscopy of ionomers and ionomer/metal interfaces: An exchange site local symmetry approach. *E.S. Smotkin, N. Loupe, D. Kumari, J.H. Doan, K. Mathiowetz, N. Dimakis*

4:10 ANYL 303. Simultaneous probing of the copper/ electrolyte interface by surface-selective infrared spectroscopy and online electrochemical mass spectrometry. *M. Waegle, X. Li, V. Ovalle, C. Gunathunge*

4:35 ANYL 304. A Raman spectroscopic study of the anatase to rutile phase transition of TiO₂, induced by photoexcitation of adsorbed dyes. *D. Graf Stillfried, M.C. Foster*

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC
Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Environmental Health & Safety of Emerging Chemicals & Technologies

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and CEI
Undergraduate Research Posters

Analytical Chemistry

Sponsored by CHED, Cosponsored by ANYL and SOCED
Microplastic Pollution: Sources, Sinks & Solutions

Sponsored by ENVR, Cosponsored by ANYL and CEI

MONDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Sci-Mix

L. A. Baker, M. F. Bush, Organizers

8:00 – 10:00

94-96, 101, 103-104, 107, 109, 114, 116-118, 120-124, 126-127, 130-131, 133-134, 138, 142, 144, 146-148, 150-151, 153, 155-156, 158-160, 166-170, 174-175, 178, 180. See previous listings.

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 104A*

Recent Advances in Solid Phase Extraction: Symposium in honor of Patrick D. McDonald

Financially supported by Waters Corporation
T. Walter, Organizer, Presiding

8:00 Introductory Remarks.

8:10 ANYL 305. Harnessing the power of solid phase extraction for peptide bioanalysis. *M. Lame*

8:30 ANYL 306. Solid phase extraction (SPE) in bioanalytical method development for therapeutic peptides. *K. Lee*

8:50 ANYL 307. Development, validation and application of a cation-exchange, solid-phase extraction for the determination of nanoparticle-released drug concentrations in plasma. *C. Holliman, W. Song, J. Tweed, Z. Gu*

9:10 ANYL 308. Recent advances in solid phase extraction for biological samples – Fulfilling the promise of SPE. *J. Danaceau*

9:30 ANYL 309. New developments in SPME. *J.B. Pawliszyn*

10:00 Intermission.

10:15 ANYL 310. Effective simplified SPE for modern multi-residue analysis: Recent developments for pass-through, dispersive, and retention/elution SPE. *M.S. Young, K. Tran*

10:35 ANYL 311. Lipid selective SPE materials simplify sample preparation and improve results. *D. Lucas, B.E. Richter, L. Zhao*

10:55 ANYL 312. Variability of solute-sorbent binding constants in SPE materials. *D.E. Raynie, S. Pandey, S. Subedi, D. Lucas, B.E. Richter*

11:25 ANYL 313. Porphyrin-based magnetic nanocomposites for efficient extraction of polycyclic aromatic hydrocarbons from water samples. *J. Yu, S. Zhu*

SECTION B

*Boston Convention & Exhibition Center
Room 104B*

Technical Developments & Applications of Optical Chemical Imaging

Cosponsored by BIOL⁺, COLL and PHYS⁺

N. Fang, Organizer

G. Wang, Organizer, Presiding

9:00 ANYL 314. Photostable optical nanoscopy (PHOTON) for cancer research. *X. Xu, P. Songkatisak, P. Cherukuri*

9:25 ANYL 315. Stimulus-responsive molecular probes for imaging of disease targets. *R.L. McCarley*

9:50 ANYL 316. Plasmonic nanoparticles for single-cell imaging and in-situ sensing. *J. Zhu*

10:10 ANYL 317. Light-driven nano-oscillators for label-free single-molecule detection. *Z. Chen*

10:25 Intermission.

10:40 ANYL 318. Molecular imaging by using environmental sensitive flavonoid dyes: From protein binding to specific biological tissue recognition. *Y. Pang*

11:05 ANYL 319. "Waltz" of Janus particles in cells: Unravelling cell functions with single-particle rotational tracking. *Y. Yu*

11:30 ANYL 320. Quantitative super-resolution microscopy reveals the architecture of the mammalian glycolyx and its changes during cancer progression. *L. Moeckl, K. Pedram, A. Roy, A. Gustavsson, C.R. Bertozzi, W.E. Moerner*

11:50 ANYL 321. Semiconducting polymer nanoparticles for photoacoustic imaging in the second near-infrared window. *J. Wu, J. Mei, J. Cheng*

SECTION C

*Boston Convention & Exhibition Center
Room 104C*

Wearable & Implantable Sensors

M. A. Daniele, L. Deravi, Organizers, Presiding

8:30 Introductory Remarks.

8:35 ANYL 322. Erythrocyte membrane-camouflaged sensor for continuous therapeutic drug monitoring. *W. Di, X. Tan, M. Niedre, H. Clark*

8:55 ANYL 323. Ultra-sensitive, highly-selective, real-time chemical wearable sensors based on hydrogel interferometer. *M. Sun, M. Qin, R. Bai, J. Song, Y. Mao, H.J. Qi, Z. Suo, X. He*

9:25 ANYL 324. Soft photonic sensors for quantifying oxygen in engineered human tissues. *K. Rivera, N. Wisniewski, S.T. Magness, M.A. Daniele*

9:45 ANYL 325. Mixed microdomains in hydrogels – strategies for multiplexed and multimode chemically-responsive materials. *Y. You, L. Bornhoeft, A. Quinn, V. Baldock, S. Goerge, D. Katturi, M. McShane*

10:15 Intermission.

10:30 ANYL 326. Continuous monitoring of lung metabolites in exhaled breath condensate using reduced graphene oxide sensor. *M. Javanmard*

11:00 ANYL 327. Wearable and implantable biosensing technologies based on the direct electron transfer principle. *K. Sode, N. Loew, I. Lee, Y. Ito, W. Tsugawa*

11:30 ANYL 328. Toward and integrated microfluidic-microsensor patch for analysis of dermal fluids. *M. Yokus, V. Pozdin, A.T. Young, J. Dieffenderfer, T. Songkakul, A. Bozkurt, M.A. Daniele*

SECTION D

*Boston Convention & Exhibition Center
Room 105*

Structure & Function of 2D Materials

Cosponsored by COLL and PHYS

S. A. Claridge, Organizer

S. Claridge, Presiding

9:00 ANYL 329. Hierarchically patterned noncovalent functionalization of 2D materials by controlled Langmuir-Schaefer conversion. *T.C. Davis, J. Bang, J.T. Brooks, D.G. McMillan, S.A. Claridge*

9:20 ANYL 330. Structural characterization of defects in hexagonal boron nitride using scanning probe spectroscopy. *D. Kozawa, A. Rajan, V. Koman, K. Silmore, A. Liu, P. Liu, D. Parviz, M. Strano*

9:40 ANYL 331. Chemically building atomically abrupt interfaces in 2D materials transition metal dichalcogenides. *J. Johns*

10:10 ANYL 332. Lateral heteroepitaxy in 2D metal-organic chalcogenolates. *J. Hohman*

10:40 ANYL 333. Properties and applications of covalently functionalized group 14 graphene analogues. *J.E. Goldberger*

11:10 ANYL 334. Highly sensitive and high-speed imaging of grain boundaries in graphene by transient absorption microscopy. *C. Yang*

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Nucleic Acid-Based Sensors

K. Chow, M. You, Organizers, Presiding

8:00 Introductory Remarks.

8:05 ANYL 335. Quantitative imaging of immune cells. *Y. Krishnan*

8:40 ANYL 336. A DNA nanoscope via auto-cycling proximity recording. *P.L. Yin*

9:15 ANYL 337. DNA nanostructures and nanosensors. *W. Tan*

9:50 Intermission.

10:05 ANYL 338. Imaging and controlling cellular biology using genetically encoded RNA devices. *S. Jaffrey*

10:40 ANYL 339. Catalytic DNA biosensors for detecting metal ions. *J. Liu*

ANYL

11:15 ANYL 340. Folding- and dynamics-based electrochemical metal ion sensors. *R.Y. Lai*

SECTION F

*Boston Convention & Exhibition Center
Room 107A*

Light-Nanomaterial Interactions for Ultrasensitive Electrochemical Sensing & Imaging & Materials Chemistry

*S. Pan, Organizer
C. M. Hill, Presiding*

8:00 ANYL 341. Rapid screening of photoanode materials for solar water splitting and the study of Co doping effect on photoelectrochemical performance of BiVO₄. *P.S. Shinde, X. Peng, J. Wang, Y. Ma, L.E. McNamara, N. Hammer, A. Gupta, S. Pan*

8:20 ANYL 342. Graphene quantum dots for electrochemiluminescence and light-emitting electrochemical cells. *R. Zhang, J. Adsetts, S. He, L. Yang, M. Ly, Z. Ding*

8:50 ANYL 343. Enhanced photocatalytic performance of CuFeO₂ thin films grown by chemical vapor deposition. *A. Yengantiwar, P.S. Shinde, S. Pan, A. Gupta*

9:20 ANYL 344. Sub-particle photoelectrochemistry. *P. Chen*

9:50 Intermission.

10:05 ANYL 345. Developing nanomaterial-based strategies for creating signal-on and signal-off photoelectrochemical biosensors. *L. Soleymani, A. Victorious, S. Saha*

10:35 ANYL 346. Surface plasmon-driven water reduction: Nanoparticle size matters. *W. Wei*

11:05 ANYL 347. Probing electrocatalytic reactions at individual plasmonic nanostructures: A combined direct electrochemical and optical approach. *C.M. Hill, P. Saha, J. Walmsley, J. Hill*

11:35 ANYL 348. Photoelectrochemical investigations of semiconductor surfaces and catalyst interfaces for solar water splitting. *S. Pan*

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis Flow Synthesis

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and GEOC

Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks

Sponsored by AGRO, Cosponsored by ANYL and ENVR

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 104A*

Analytical Division Awards

*L. A. Baker, Organizer
K. Phinney, Presiding*

1:30 ANYL 349. Will open tubular liquid chromatography ever catch on? *P.K. Dasgupta*

2:05 ANYL 350. Electrocatalytic cascades for energy conversion and electrosynthesis. *S.D. Minteer*

2:40 ANYL 351. The foundation of molecular medicine: A chemical biology approach. *W. Tan*

3:15 Intermission.

3:30 ANYL 352. Learning is not a spectator sport: Active learning in analytical chemistry. *J.K. Robinson*

4:05 ANYL 353. Advancing analytical chemistry through education, mentoring and inclusion. *C.K. Larive*

4:40 ANYL 354. Accelerated droplet chemistry: How and why? *A. Badu-Tawiah*

SECTION B

*Boston Convention & Exhibition Center
Room 104B*

Frontiers of Bioanalytical Raman Imaging & Spectroscopy

D. Fu, Organizer, Presiding

1:30 Introductory Remarks.

1:35 ANYL 355. Stimulated Raman cytometry: Unveiling dynamic signatures in single cells for precision diagnosis and treatment. *J. Cheng*

2:05 ANYL 356. Super-resolution Raman imaging to understand polymer-mediated gene delivery. *D. Punihaoale, R.R. Frontiera*

2:25 ANYL 357. Sub-diffraction CARS imaging of plant cell wall. *A. Singh, D. Freppon, O. Zabolina, J.W. Petrich, E.A. Smith*

2:45 ANYL 358. Identifying cancer cells with multifunctional surface-enhanced Raman spectroscopy (SERS) probes. *M. Li*

3:05 Intermission.

3:35 ANYL 359. Super-multiplex vibrational imaging for biomedicine. *W. Min*

4:05 ANYL 360. Linear and nonlinear Raman spectroscopy for taking optical biopsies. *M. Schmitt, J. Popp*

4:35 ANYL 361. Spectral focusing multiphoton hyperspectral imaging with 5 cm⁻¹ spectral resolution. *A. Zeytunyan, T. Baldacchini, R. Zadayan*

4:55 ANYL 362. *In vitro* and *in vivo* neurochemical detection for early-onset neurological disease diagnosis with Raman spectroscopy. *B. Sharma*

SECTION C

*Boston Convention & Exhibition Center
Room 104C*

Wearable & Implantable Sensors

M. A. Daniele, L. Deravi, Organizers, Presiding

1:30 ANYL 363. Engineering textile-compatible sensors and signal lines for wearable robotics. *V. Sanchez, C.J. Walsh*

1:50 ANYL 364. Vapor phase chemistry for garment-integrated electronics. *T.L. Andrew*

2:20 ANYL 365. Rehealable, fully recyclable and malleable electronic skin enabled by dynamic covalent thermost nanocomposite. *J. Xiao, Z. Zou, W. Zhang*

2:50 Intermission.

3:05 ANYL 366. Chemiresistive sensors for low power applications. *T.M. Swager*

3:35 ANYL 367. A wearable sensor for real-time measurement of the chloride ion concentration in sweat: Relevance to health and disease. *P. Searson, D. Choi, G. Kitchen*

4:05 ANYL 368. Toward high performance gas sensing in wearable formats. *R.A. Potyrailo*

4:35 ANYL 369. Conductive metal-organic frameworks as sensors and transducers in portable electroanalytical devices. *K. Mirica*

SECTION D

*Boston Convention & Exhibition Center
Room 105*

Structure & Function of 2D Materials

*Cosponsored by COLL and PHYS
S. A. Claridge, Organizer*

S. Claridge, Presiding

1:30 ANYL 370. π -Electron functional materials in the flatland. *D.F. Perepichka*

2:00 ANYL 371. Standing, lying, and sitting: Controlling surface wetting and interactions between a 2D material and its environment using bioinspired noncovalent ligand layers. *S.A. Claridge*

2:30 ANYL 372. On the intrinsic electrochemical properties of graphitic materials. *H. Liu*

3:00 ANYL 373. Studies of friction, energy dissipation and chemical reactivity of 2D nanomaterials. *M.B. Elinski, Z. Liu, M. Negrito, N. Hawthorne, J. Batteas*

3:30 ANYL 374. The antimicrobial property of 2D materials. *L. Yang*

4:00 ANYL 375. Electrocatalysis on electronically transparent yet physically impermeable graphene electrodes. *J. Hui, J. Rodriguez Lopez*

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Nucleic Acid-Based Sensors

K. Chow, M. You, Organizers, Presiding

1:30 ANYL 376. High-throughput small-molecule enantiopurity measurement using flow cytometry. *Z. Tan, A. Manna, J.M. Heemstra*

2:00 ANYL 377. Rapid, sub-millisecond interrogation of conformation switching aptamers. *R.J. White, M. Santos Cancel*

2:30 ANYL 378. Quantifying intercellular tensile forces by membrane DNA probes. *M. You, B. Zhao*

3:00 ANYL 379. Ligand-guided selection (LIGS): A SELEX variant to identify specific aptamers against cell-surface markers. *H. Zümrit, S. Batool, K. Argyropoulos, R. Dekhang, P. Mallikaratchy*

3:30 Intermission.

3:45 ANYL 380. Real-time, in-vivo feedback control of plasma drug levels guided by electrochemical, aptamer-based measurements. *N. Arroyo*

4:10 ANYL 381. Visualized aptamer biosensors based on coffee-ring effect. *H. Liu*

4:35 ANYL 382. Signal amplification based on isothermal autonomous nonlinear hybridization chain reactions. *F. Wang, J. Wang*

5:00 ANYL 383. Charge splitters and charge transport junctions based on guanine quadruplexes. *R. Sha, L. Xiang, C. Liu, A. Balaeff, Y. Zhang, P. Zhang, Y. Li, D.N. Beratan, N. Tao, N.C. Seeman*

SECTION F

*Boston Convention & Exhibition Center
Room 107A*

Light-Nanomaterial Interactions for Ultrasensitive Electrochemical Sensing & Imaging & Materials Chemistry

*S. Pan, Organizer
C. M. Hill, Presiding*

1:30 ANYL 384. Scanning electrochemical microscopy meets Raman - In Situ and simultaneous probing of reactivity and electronic structure on single reacting sites. *N. Schorr, Z. Gossage, J. Rodriguez Lopez*

2:00 ANYL 385. Quantifying structure-specific plasmon mode quality factors using single-beam interferometric nonlinear optical microscopy. *T. Zhao, K.L. Knappenberger*

2:20 ANYL 386. Distinguishing structural isomers in single-molecule junctions. *H. Zhang*

2:50 ANYL 387. Enhancing the fluorescence stability of CH₃NH₃PbI₃ films under the blue excitation source. *J. Yadav, S. Pan*

3:10 Intermission.

3:25 ANYL 388. High-resolution imaging of single biological nanopores by scanning electrochemical microscopy. *S. Amemiya*

3:55 ANYL 389. Single nucleation and crystal growth by in-situ electrochemical sensing and optical imaging. *G. Wang, Y. Li, M.M. Kvetny*

4:25 ANYL 390. Synthesis of fluorescent carbon nanomaterials from benzoxazine for multiple applications. *J. Gu, B. Fang, X. Lu, F. Cao, X. Zheng*

4:55 ANYL 391. Photoelectrochemical properties of p-Cuprous oxide nanoneedles/n-Titanium dioxide nanorods tandem cell for solar water splitting. *S. Pan, N. Kaneza, P.S. Shinde*

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis Reaction Planning & Screening

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and GEOC

Chiral Agrochemicals: Analytical Advances & Regulatory Trends

Sponsored by AGRO, Cosponsored by AGFD and ANYL

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 104A*

Molecular Interactions of Synthetic Nanoparticles with Membranes

*Cosponsored by COLL and PHYS
Z. Rosenzweig, Organizer, Presiding*

8:00 Introductory Remarks.

8:05 ANYL 392. Anionic nanoparticles disrupt gramicidin A activity in model phospholipid bilayers. *I. Foreman-Ortiz, E. Laudadio, J. Calderin, Y. Zhao, B. Gonzales, P. Keshri, X. Zhang, B. Cheng, X. Zhang, B. Hoover, V.M. Rotello, C.J. Murphy, R. Murphy, J.A. Pedersen*

8:25 ANYL 393. Transient protein interaction with nanoparticle produces persistent conformational changes. *K. Kim, X. Zhang, C.J. Murphy, J.A. Pedersen*

8:45 ANYL 394. Effects of ionic environment on bacterial lipopolysaccharide monolayer structure. *A. Rahnamoun, K. Kim, J.A. Pedersen, R. Hernandez*

9:05 ANYL 395. High-precision non-fluorescent single particle tracking of monosaccharide conjugated gold nanoparticles on membranes. *K. Chen, Y. Gu, N. Fang*

9:25 ANYL 396. Fluorescent carbon dot surrogates – Probing health effects of black carbon while relating form and function in creating fluorescent carbon dots. *C. Sumner, R.L. McCarley*

9:45 Intermission.

10:05 ANYL 397. Label-free dynamic imaging of free standing lipid membranes and their hydration. *O. Tarun, S. Roke*

10:40 ANYL 398. Investigation of molecular interactions between cationic nanoparticles and Gram-positive bacterial cell walls. *V. Feng, R. Tapia Hernandez, E.R. Caudill, K.P. Johnson, C.L. Haynes, J.A. Pedersen*

11:15 ANYL 399. Experimental platforms to study molecular interactions of synthetic nanomaterials with biological membranes. *J.A. Pedersen*

SECTION B

*Boston Convention & Exhibition Center
Room 104B*

Frontiers of Bioanalytical Raman Imaging & Spectroscopy

*D. Fu, Organizer
J. Cheng, Presiding*

8:30 ANYL 400. Alkyne-tag Raman imaging for finding small molecules. *K. Fujita*

9:00 ANYL 401. Broadband stimulated Raman scattering spectroscopic imaging. *D. Fu*

9:30 ANYL 402. Confocal-Raman microscopy of phospholipid bilayers in small-volume, high surface area supports: An informative tool for investigating bilayer-analyte interactions. *D. Bryce, J.P. Kitt, J.M. Harris*

9:50 ANYL 403. Towards label-free super-resolution Raman imaging. *C.T. Graefe, D. Punihaole, R.R. Frontiera*

10:10 Intermission.

10:40 ANYL 404. Raman microscopy investigation of cytochrome c-cardiolipin interactions to understand the mechanism of cytochrome c-induced membrane permeabilization proposed to occur during apoptosis. *J.P. Kitt, D.A. Bryce, S.D. Minter, J.M. Harris*

11:00 ANYL 405. Organic semiconductor based surface-enhanced Raman spectroscopy platforms. *G. Demirel, H. Usta, A. Facchetti*

11:20 ANYL 406. Ultrahigh affinity radiolabeled Raman probes for combined SERS and PET/SPECT imaging of prostate cancer. *S. Siddhanta, I. Barman*

11:40 ANYL 407. Functionalized magnetic-plasmonic nanoprobes for surface enhanced Raman spectroscopic detection of cancer biomarkers. *J. Li, M. Kozma, J. Luo, S. Shan, S. Yan, Y. Liu, M.R. Hepel, C. Zhong*

12:00 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Room 104C*

Wearable & Implantable Sensors

M. A. Daniele, L. Deravi, Organizers, Presiding

8:30 Introductory Remarks.

8:35 ANYL 408. Nanoporous gold-based biosensor for the determination of hydrogen peroxide. *J. Narayanan, G. Slaughter*

9:05 ANYL 409. Single-molecule and interaction-based biosensing using nanopores: Oligo and polysaccharide analysis. *B.I. Karawdeniya, J.W. Nichols, Y.D. Bandara, J. Hagan, R.B. Chevalier, J.R. Dwyer*

9:35 ANYL 410. High throughput virtual screening of fullerene sensors: Designing a molecular clamp. *J.M. Cox, S.A. Lopez*

10:05 ANYL 411. Augmenting radiography with chemical sensors. *J.N. Anker, M. Arifuzzaman, P. Millhouse, U. Wijayaratna, S. Kiridena, Y. Raval, C.J. Behrend, T. Pace, J. DesJardins, J. Tzeng*

10:35 Intermission.

10:50 ANYL 412. Quasi-direct electron transfer-type glucose sensor based on engineered glucose oxidase. *N. Loew, N. Suzuki, W. Tsugawa, Y. Inose-Takahashi, M. Hatada, K. Mori, K. Sode*

11:10 ANYL 413. Calibration-free approaches to interrogate electrochemical aptamer-based sensors enable ultra-high-precision in-vivo drug monitoring. *N. Arroyo*

11:40 ANYL 414. Progress towards a wearable glucose sensor: Development of a versatile two-component system based on boronic acid appended viologens receptors. *A. Resendez, B. Singaram*

SECTION D

*Boston Convention & Exhibition Center
Room 105*

Solid-Phase Chemoenzymatic Methods for Analysis of Sialylated Glycans & their Intact Glycopeptides

*Cosponsored by CARB
Financially supported by Genovis Inc.*

*S. Yang, Organizer, Presiding
J. F. Cipollo, Presiding*

8:30 ANYL 415. Characterization of site-specific glycosylation of aggrecan, a 2.5 megadalton hyalectan proteoglycan. *J.A. Klein, L. Meng, J. Zaita*

9:10 ANYL 416. Identification of sialic acid linkages on intact glycopeptides using intactGIG-HILIC. *S. Yang*

9:25 ANYL 417. Enzymatic strategies for O-glycan analysis using LC-MS. *P. Onigman*

9:40 ANYL 418. Deciphering protein o-glycosylation: Solid-phase chemoenzymatic cleavage and enrichment. *S. Yang, P. Onigman, J. Sjogren, H. Nyhlen, W.W. Wu, R. Shen, J.F. Cipollo*

10:10 Intermission.

10:30 ANYL 419. The comprehensive glycomic characterization of the glycolocaly. *C.B. Lebrilla*

11:10 ANYL 420. Human serum IgG glycosylation as a promising biomarker for cancer diagnosis. *S. Ren, Z. Zhang, R. Qin, W. Qin, J. Han, J. Gu*

11:30 ANYL 421. Exploring receptor tyrosine kinase N-glycosylation and signaling via nanoLC-MS/MS using higher-energy collisional dissociation and stepped collision energy. *K.B. Chandler, D.R. Leon, J. Kuang, M.A. Kukuruzinska, N. Rahimi, C.E. Costello*

11:50 ANYL 422. Linkage-specific sialic acid derivatization strategies for mass spectrometric profiling of glycans and glycopeptides in complex samples and tissues. *N. de Haan, S. Holst, G. Kammeijer, B. Heijs, D. Falck, K. Reiding, M. Wuhrer*

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Nucleic Acid-Based Sensors

K. Chow, M. You, Organizers, Presiding

8:30 ANYL 423. Genetically encoded RNA sensors for fluorescence imaging of antimicrobials and signaling molecules. *M. You, A. Karunanayake, Q. Yu, R. Wu*

8:55 ANYL 424. Engineering aptamers to maximize their analytical performance using a thermodynamic approach towards real-time monitoring of drugs in the living body. *P. Dauphin Ducharme, K. Plaxco*

9:20 ANYL 425. Smart aptamers forming G-quadruplex: Structural and functional change of aptamers forming G-quadruplex in response to surrounding conditions and its regulation with the ligands. *K. Tsukakoshi, M. Nishio, I. Sasaki, Y. Ma, K. Nagasawa, Y. Kato, C. Nakamura, K. Sode, K. Ikebukuro*

9:45 ANYL 426. Aptamer field-effect transistors for small-molecule detection. *K.M. Cheung, N. Nakatsuka, K. Yang, C. Zhao, P.S. Weiss, M. Stojanovic, A.M. Andrews*

10:10 Intermission.

10:25 ANYL 427. Direct observation of ATP release from astrocytes using electrochemical, aptamer-based sensors interfaced with 3-D tissue scaffolds. *M. Santos Cancel, R. White*

10:45 ANYL 428. Electrochemical DNA sensors based on redox-labeled stem-loop probes in polymeric nanoporous films. *Z. Harandizadeh, T. Ito*

11:05 ANYL 429. Detection of osmium tetroxide, 2,2'-bipyridine-labelled thrombin and binding with aptamers. *S.K. Galagedera, G. Flechsig*

11:25 ANYL 430. Modification of cytosine-targeted DNA using novel N-mustard analogs of S-Adenosyl-L-Methionine as DNA methylation probes. *N. Sirasunthorn, L. Comstock, A. Gerber*

11:45 ANYL 431. Microgel tethering for integrated solid-phase nucleic acid amplification and self-reported detection. *F. Teng, Y. Ma, M. Libera*

12:05 Concluding Remarks.

SECTION F

*Boston Convention & Exhibition Center
Room 107A*

Student Organized Symposia: New Paradigms in Nanoscale Electrocatalysis

Cosponsored by YCC

G. Jagdale, S. Jeong, N. Siepser, Organizers, Presiding

8:30 Introductory Remarks.

8:35 ANYL 432. Catalysts for efficient electrochemical reduction of CO₂ to CO or ethylene/ethanol. *P.J. Kenis*

9:00 ANYL 433. Mapping the catalytic plasticity of bismuth/ Ionic liquid pairings for the electrochemical reduction of CO₂. *A. Atifi, J. Rosenthal*

9:25 ANYL 434. Examining electrocatalytic activity at pseudo-single-crystals with scanning electrochemical microscopy. *D. Wipf, T.J. Dowell, Y. Wang*

9:50 ANYL 435. Electrocatalysis at nanostructured ensembles of ultramicroelectrode dimensions. *C.G. Zoski*

10:15 Intermission.

10:25 ANYL 436. Charged nanodroplets impacting nanotemplated surfaces: Nanoelectrospray construction of materials at near-molecular scales using edge-rich noncovalent templates. *S.A. Claridge*

10:50 ANYL 437. Photoelectrochemical detection of semiconductor nanoparticles: Electrochemical characterization of single nanoparticles and their colloidal behavior. *M.A. Alpuche-Aviles, P. Chhetri, K. Barakoti, S. Gutierrez-Portocarrero, R. Kazemi Khouzani, G. Rana, P. Subedi*

11:15 ANYL 438. Controlled electrodeposition of tetrathiafulvalene bromide (TTFBr) nanowires for gas sensing. *L. Luo, H. Gunasekera, G. Mao, M. Kilani, X. Yu*

11:40 ANYL 439. Naked-eye electrochemical sensor. *K. Chow, J. Oh, S. Wijesinghe*

12:05 Concluding Remarks.

Chemistry in Space & Past, Present & Future

Sponsored by YCC, Cosponsored by ANYL

From Lab to Tap: Implications of Scaling Up Nano-Enabled Environmental Technologies

Sponsored by ENVR, Cosponsored by ANYL

Analytical Topics for Ag Process Chemistry & Formulations Research

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Atmospheric Fate & Transport of Volatilized Agricultural Emissions

Sponsored by AGRO, Cosponsored by ANYL and ENVR

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 104A*

Molecular Interactions of Synthetic Nanoparticles with Membranes

Cosponsored by COLL and PHYS

Z. Rosenzweig, Organizer, Presiding

1:30 ANYL 440. Steady state and time resolved photoluminescence studies reveal adverse interactions of luminescent semiconductor quantum dots with model membranes and living organisms. *D.N. Williams, R.P. Brown, Z. Rosenzweig*

2:05 ANYL 441. Making gold nanoparticles look like lipid vesicles and biological impacts thereof. *C.J. Murphy*

2:40 ANYL 442. Quantitative analysis of nanoparticle surfaces. *H. Fairbrother, M.J. Gallagher*

3:15 Intermission.

3:35 ANYL 443. Omic analysis of the impact of lithium nickel manganese cobalt oxide (NMC) nanomaterial on *Shewanella oneidensis* MR-1. *E.E. Carlson*

4:10 ANYL 444. Interaction of complex oxides with supported bilayers and organisms: Implications for environmental impact of lithium ion batteries. *R.J. Hamers*

4:45 ANYL 445. Towards active control of nanoparticle-hydrogel composites. *C.F. Landes*

5:20 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 104B*

Student Organized Symposia: Probing Biological Systems with Nonlinear Optics Advances in NLO Imaging

Cosponsored by YCC

R. Tran, Organizer

*H. Florian, S. Sarkar, C. Smith, Organizers, Presiding
R. Tran, Presiding*

1:30 ANYL 446. Analysis of collagen architecture alterations in human ovarian cancer via SHG polarization resolved microscopy. *P. Campagnola, K. Campbell, R. Chaudhary, J. Handel*

2:00 ANYL 447. Lipid flip-flop measured by sum frequency vibrational spectroscopy. *J.C. Conboy*

2:30 ANYL 448. Stimulated Raman scattering microscopy: Chemical imaging for biomedicine. *W. Min*

ANYL

2:55 ANYL 449. Ultrastructural imaging with second harmonic generation Stokes-Mueller polarimetric microscopy. *V. Barzda, A. Galaraei, L. Kontenis, K. Mirsanaye, M. Samim, M. Akens, B.C. Wilson*

3:20 ANYL 450. Polarization dependent imaging for discrimination between protein aggregates and crystals. *H. Florian, C. Smith, A. Sherman, A. Geiger, G.J. Simpson*

3:40 Intermission.

3:50 ANYL 451. Sub-micron resolution chemical imaging by wide-field mid-infrared photothermal microscopy. *Y. Bai, D. Zhang, A. Shakouri, J. Cheng*

4:20 ANYL 452. Chiral vibrational sum frequency generation spectroscopy for probing water superstructures surrounding proteins. *E.C. Yan, E. Perets*

4:45 ANYL 453. Lipid membranes probed label-free with nonlinear light scattering and imaging: Direct probes of surface chemistry. *S. Roke*

5:10 ANYL 454. Kinetic advantage of a competitive assay for label-free detection in small-molecule immunoassays. *R. Tran, K. Sly, J.C. Conboy*

SECTION C

*Boston Convention & Exhibition Center
Room 104C*

Next Generation Instrumentations & Measurement in Space Exploration

Cosponsored by YCC

S. M. Angel, K. S. Booksh, *Organizers, Presiding*

1:30 ANYL 455. Remote Raman spectroscopy and LIBS using spatial heterodyne spectrometer with Fresnel collection optics. *S.M. Angel*

1:55 ANYL 456. Time-resolved remote Raman spectroscopic system for planetary exploration. *S. Sharma*

2:20 ANYL 457. The potential for flow chemistry in space. *A.B. Beeler*

2:45 ANYL 458. The International Space Station US National Lab – Exploring science in the final frontier. *K. Savin*

3:10 Intermission.

3:30 ANYL 459. High impact chemistry: Testing an organic detection instrument for an extraterrestrial kinetic penetrator. *A.M. Stockton*

3:55 ANYL 460. Multivariate analysis and Raman microspectroscopic imaging: Enhancing the search for life on Mars. *J.P. Smith*

4:20 ANYL 461. Raman hyper-spectral imaging and multivariate curve resolution applied to speciation in meteorites and meteorite impacts. *K.S. Booksh*

SECTION D

*Boston Convention & Exhibition Center
Room 105*

Joint Symposium of the Separation Science Subdivisions

G. A. Fugate, K. Phinney, C. Rimmer, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 ANYL 462. Enhanced organics characterization using total organic carbon (TOC) coupled with size exclusion chromatography (SEC). *A. Scott*

1:55 ANYL 463. The application of rotary bed reactor (RBR) technology in the treatment of nuclear wastes. *P. Sylvester*

2:15 ANYL 464. Ion-selective polymers: Analysis of critical variables. *S. Alexandratos, X. Zhu*

2:35 ANYL 465. Performance evaluation of a new portable GC with photoionization detector for on-site real-time monitoring of environmental VOC. *P.K. Nam, M. Bose, X. He, H. Shi*

2:55 ANYL 466. Ultrafast gas chromatographic separation of fatty acid methyl esters in a biodiesel. *B.P. Regmi, R. Chan, A. Atta, M. Agah*

3:15 Intermission.

3:30 ANYL 467. GC/FUV for analysis of ambient (ppb level) greenhouse gases. *J.L. Maclachlan, J.N. Driscoll*

3:50 ANYL 468. Improved resolution analysis of cyclic siloxanes in silicone polymers with OH-terminated siloxanes. *M.L. Rivard*

4:10 ANYL 469. High-throughput density-based measurement and separation using magnetic levitation. *S. Ge, Y. Wang, N. Deshler, D. Preston, G.M. Whitesides*

4:30 ANYL 470. Asymmetrical flow field flow fractionation for analysis of biological macromolecules. *W. Zhong, J. Lee, G. Adkins*

4:50 ANYL 471. Automated liquid extraction surface analysis coupled with capillary electrophoresis for rapid and sensitive detection of pesticides on a fruit surface. *S. Jeong, D. Chung*

SECTION E

*Boston Convention & Exhibition Center
Room 106*

Student Organized Symposia: New Mass Spectrometry Methods for Polymer Analysis

Cosponsored by YCC

Financially supported by Waters Corporation

J. Mao, B. Wei, *Organizers*
K. J. Endres, J. O'Neill, S. R. Snyder, *Organizers, Presiding*

1:30 Introductory Remarks.

1:40 ANYL 472. Top-down mass spectrometry of crosslinked functional materials. *K.J. Endres, R. Dilla, M. Becker, C. Wesdemiat*

2:20 ANYL 473. Materials analysis using secondary ion mass spectrometry: Challenges and opportunities. *A.V. Walker*

3:00 ANYL 474. Elucidating polymer architecture using mass spectrometry. *S.M. Grayson*

3:40 Intermission.

4:00 ANYL 475. Redefining ionization in mass spectrometry: Discovery and implementation of novel ionization processes. *S. Trimpin*

4:40 ANYL 476. MS-assisted design of sequence-controlled polymers to improve their sequenceability. *L. Charles, J. Lutz*

5:20 Discussion.

SECTION F

*Boston Convention & Exhibition Center
Room 107A*

Advances in Electrochemistry

L. A. Baker, *Organizer*

A. E. Ross, *Presiding*

1:30 Introductory Remarks.

1:35 ANYL 477. Silicon nanowires as an acetaminophen electrochemical sensor. *R.R. Pandey, H.S. Alshahrani, E.H. Williams, S. Krylyuk, A.V. Davydov, C.C. Chusuei*

2:00 ANYL 478. Simultaneous topography and qualitative surface charge mapping with scanning ion conductance microscopy. *C. Zhu, L.A. Baker*

2:25 ANYL 479. Electrochemistry at the three-phase interface. *H. Ren, M. Edwards, H.S. White*

2:50 ANYL 480. Electrosynthesis and characterization of an electrochromic pigment. *T. Williams, C. Martin, A. Kumar, L. Deravi*

3:15 ANYL 481. Electroanalytical performance of nitrogen-incorporated tetrahedral amorphous carbon thin-films in room temperature ionic liquids. *R. Jarosova, G. Swain*

3:40 ANYL 482. Detection of melatonin dynamics in the immune system using fast-scan cyclic voltammetry. *A. Hensley, A. Colley, A.E. Ross*

From Lab to Tap: Implications of Scaling Up Nano-Enabled Environmental Technologies

Sponsored by ENVR, Cosponsored by ANYL

Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation

Spectroscopy Analysis

Sponsored by ENFL, Cosponsored by ANYL and COLL

New Analytical Technologies for Pesticide Analysis

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Wastewater-Based Epidemiology: Opportunities & Challenges

Sponsored by ENVR, Cosponsored by ANYL

Atmospheric Fate & Transport of Volatilized Agricultural Emissions

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Chiral Agrochemicals: Analytical Advances & Regulatory Trends

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Pesticide Spray Drift: Application, Evaluation & Mitigation

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Role of P450s in Broad-Spectrum Multiple Herbicide Resistance in Weeds: Symposium Honoring Stephen Powles

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Uses of Mass Spectrometry in Agricultural Research & Development : New Trends & Best Practices

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

THURSDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 153A*

Opportunities in Forensic Proteomics: Applications, Bioinformatics, Admissibility, Quality Standards

E. Merkley, *Organizer, Presiding*

8:00 Introductory Remarks.

8:10 ANYL 483. The need for advances in analytical chemistry to support forensic analysis of biological materials. *R.I. Bull*

8:25 ANYL 484. Statistical foundations for forensic proteomics. *K. Jarman, E. Merkley*

8:50 ANYL 485. ISO 17025 validation of method-based mass spectrometry techniques for the identification of Ricin in bioforensic samples. *A. Garrett, K. Vereecke, N. Brown, A. Hanlon, A. Cardamone, R. Lehman, E. Merkley, K. Jarman, D. Wunschel, S. Cendrowski, K.L. Wahl, J. Burans*

9:15 ANYL 486. Proteomics in the analysis of forensic bone. *M. Buckley, N. Procopio, A. Williams, A. Chamberlain*

9:40 ANYL 487. Forensic body fluid identification by proteomic mass spectrometry. *H. Yang, S. Monier, E. Butler, D. Feryo, D. Siegel*

10:05 Intermission.

10:15 ANYL 488. Informatics approaches to forensic body fluid identification by proteomic mass spectrometry. *E. Butler, W. Liu, S. Ma, D. Siegel, D. Feryo*

10:40 ANYL 489. Mass spectrometric forensic analysis of botulinum neurotoxins. *S. Kalb, J. Baudys, J.R. Barr*

11:05 ANYL 490. NextGen serology: Protein mass spectrometry for the forensic identification human body fluids. *P.B. Danielson, H.E. McKiernan, C. Brown, K.M. Legg*

11:30 ANYL 491. Human identification using genetically variant peptides in hair. *B.R. Hart, D. Anex, K.E. Mason, F. Chu, S. Malfatti, N.J. Mulakken*

11:55 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 156C*

New Synthetic Tools & Analytical Methods for the Near-IR

Cosponsored by ORGN

M. Henary, G. Patonay, *Organizers, Presiding*

9:00 ANYL 492. Pre-assembly of near-infrared fluorescent multivalent molecular probes for biological imaging. *B.D. Smith*

9:30 ANYL 493. Targeted theranostics featuring near infrared dyes. *K. Burgess*

9:50 ANYL 494. Fluoromodules consisting of a promiscuous RNA aptamer and red or blue fluorogenic cyanine dyes: Selection, characterization and bioimaging. *B.A. Armitage, X. Tan*

10:10 ANYL 495. Solvatofluorochromism in highly fluorescent asymmetric thiazolothiazole dyes. *M.G. Walter, N. Sayresmith, S. Kristin*

10:30 ANYL 496. Near-infrared fluorescent probes with single-photon frequency upconversion fluorescence for detection in live cells. *J. Bi, H. Liu*

10:50 ANYL 497. Near-infrared fluorescent dyes and probes based on the rhodol scaffold. *M. Xian*

11:10 ANYL 498. Ratiometric near-infrared fluorescent probes for sensitive detection of pH changes in live cells. *S. Xia, J. Wang, H. Liu*

11:30 ANYL 499. Design and synthesis of water-soluble NIR contrast agents for In vivo optical imaging. *M. Henary, E. Owens, H. Hyun, H. Choi*

SECTION C

*Boston Convention & Exhibition Center
Room 157A*

Advances in Spectroscopy

J. M. Harris, *Organizer*

D. A. Sheen, *Presiding*

8:25 ANYL 500. Diffusion behavior of charged dye molecules in self-assembled organic nanotubes studied using imaging fluorescence correlation spectroscopy. *G. Ghimire, R. Espinoza, H. Xu, S. Nagasaka, N. Kameta, M. Masuda, D.A. Higgins, T. Ito*

8:50 ANYL 501. Photoactivatable BODIPY probe for localization-based super-resolution imaging. *C.S. Wijesooriya, J. Peterson, P. Shrestha, A. Winter, E.A. Smith*

9:15 ANYL 502. Developments of novel fluorescent molecular probes for the selective detection of neurotransmitters. *Y. Suzuki*

9:40 ANYL 503. Tuning fluorescence on nano-interface through click chemistry for diagnosing Wilson's disease. *W. Chen*

10:05 Intermission.

10:15 ANYL 504. Non-negative matrix factorization filter for digital deconvolution. *S. Griffin, J.A. Biechele-Speziale, C. Smith, X. You-Dow, G.J. Simpson*

10:40 ANYL 505. Detecting DNA methylation using surface enhanced Raman spectroscopy (SERS). *S. Hasan, Y. He, J. Wang, M.R. Gartia*

11:05 ANYL 506. Biosensing based on porous gold nanostructure substrates with plasmonic tunability. *W. Qian*

11:30 ANYL 507. Silk fibroin one dimensional photonic crystals sensor fabrication and application in small molecules detections. *M. Guo, J. Yin, S. Li*

SECTION D

*Boston Convention & Exhibition Center
Room 157B*

Student Organized Symposia: Enabling Spectroscopies for Nanomaterial Applications: Energy Conversion to Therapeutics

Cosponsored by YCC

S. Crawford, X. Gan, L. Marbella, Organizers, Presiding

8:30 Introductory Remarks.

8:35 ANYL 508. Plasmonic nanoparticles: From fundamental optical properties to applications. *S. Link*

9:10 ANYL 509. Luminescent gold nanoparticles. *J. Zheng*

9:45 ANYL 510. Spectroscopic measurements of carrier densities and redox potentials in tunable inorganic frameworks. *A.M. Schimpf*

10:20 Intermission.

10:35 ANYL 511. Spatially resolved spectroscopies for semiconductor nanomaterials. *W.A. Tisdale*

11:10 ANYL 512. Monitoring the aggregation of silver nanoparticles using particle-impact voltammetry coupled with UV-vis spectroscopy. *L. Ezra, J. Hui, K.R. Riley*

11:35 ANYL 513. *In situ* electrochemical spectroscopies for studying electrocatalysis and batteries: From IR to NMR to scanning probe microscopy. *Y. Tong*

12:10 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Room 157C*

Advances in Mass Spectrometry

M. F. Bush, Organizer, Presiding

8:30 ANYL 514. Development of ultra high-resolution multi-level structures for lossless ion manipulations ion mobility platform. *Y.M. Ibrahim, A. Prabhakaran, A. Li, R.V. Norheim, C.E. Schimelfenig, S.V. Garimella, R.D. Smith*

8:55 ANYL 515. Advanced robotics coupled with a non-chromatographic mass spectrometry platform to address complex matrices for *in vitro* and *in vivo* biopharmaceutical studies. *J. Zhang, C. Cruz, P. Faustino*

9:20 ANYL 516. Photochemical vapor generation for the quantitative analysis of transition elements by ICP-MS: A feasibility investigation. *R.M. de Oliveira, G. Salvador, B.S. Soares, D.L. Borges*

9:45 ANYL 517. Prototype coded aperture miniature mass spectrometer using a cycloidal sector mass analyzer. *J.J. Amsden, P.J. Herr, D.M. Landry, W. Kim, P. Vyas, K. Horvath, M.P. Kirley, C. Parker, A.D. Keil, K.H. Gilchrist, S.D. Hall, J.B. Carlson, N. Baldasaro, D. Stokes, S.J. Edwards, R.P. Sperline, M.B. Denton, B.R. Stoner, M.E. Gehm, J.T. Glass*

10:10 Intermission.

10:20 ANYL 518. Interpreting the collision cross sections of proteins: Insights from ion mobility, unfolding, and folding of ions in the gas phase. *M.F. Bush*

10:45 ANYL 519. Gas-phase photo-crosslinking and tandem mass spectrometry in unraveling the noncovalent bonding within physiologically active molecule complexes. *Y. Liu, S.R. Huang, F. Turecek*

11:10 ANYL 520. Active dimethyl labeling and mass spectrometry for protein structure analysis. *Y. Wu*

11:35 ANYL 521. Characterization and quantification of isobaric antisense oligonucleotide impurities by tandem mass spectrometry with ion mobility. *B. Guan, X. Wang, J. Stolee*

SECTION F

*Boston Convention & Exhibition Center
Room 251*

Advances in Electrochemistry

L. A. Baker, Organizer

A. E. Ross, Presiding

9:00 Introductory Remarks.

9:05 ANYL 522. Use of citric acid to form an artificial SEI on silicon nanoparticles to enhance the performance of lithium-ion battery anodes. *K.K. Chandrasiri, S. Jung, B. Subramanian Parimalam, C. Cuong Nguyen, B. Young, B.L. Lucht, D. Heskett*

9:30 ANYL 523. Electrochemical investigations of silver nanoparticle dissolution and aggregation. *K.R. Riley, L. Ezra, Z.J. O'Dell, K. Wheeler*

9:55 ANYL 524. Chemical sensing using a nanoneedle-based nanopore probe. *K. Shoji, R. Kawano, R.J. White*

10:20 ANYL 525. Electromembrane extraction as an improved sample preparation platform for endogenous hormones in plant tissues. *J. Suh, S. Han, Y. Wang*

10:45 ANYL 526. Use of methanol extracts of *Kalanchoe crotan* and *Landolphia dulcis* for corrosion inhibition of mild steel in 5.0M H₂SO₄. *T.A. Abii*

11:10 ANYL 527. Electrochemical biosensor for the detection of sub-nanomolar levels of environmental pollutants. *A.L. Furst, M.B. Francis*

11:35 ANYL 528. Investigation of structural properties of imidazolium-based ionic liquids on redox electrochemistry. *H. Hu, K. George, V. Prabhakaran, V. Thalangaarachchige, S. Jagdeep-Kaur, E.L. Quitevis, J. Laskin*

Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation

Nanomaterials & Safe Evaluation

Sponsored by ENFL, Cosponsored by ANYL and COLL

RNAi & Gene Editing: Utilization for Enhanced Crop Production

Sponsored by AGRO, Cosponsored by AGFD and ANYL

Wastewater-Based Epidemiology: Opportunities & Challenges

Sponsored by ENVR, Cosponsored by ANYL

THURSDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 153A*

Methodologies for Use in Cleaning Validations

H. J. Kaiser, Organizer, Presiding

P. Lopolito, Presiding

1:30 Introductory Remarks.

1:40 ANYL 529. Choosing appropriate analytical methodologies for use in cleaning validations. *H.J. Kaiser, B. Ritts*

2:25 ANYL 530. Rethinking cleaning validation for active pharmaceutical ingredient manufacturing. *D. Hadziselimovic*

3:10 ANYL 531. Effective cleaning validation of reusable medical devices. *A. Thanavaro*

3:40 ANYL 532. Evaluating surface cleanliness using risk-based approach. *P. Lopolito*

4:25 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 156C*

New Synthetic Tools & Analytical Methods for the Near-IR

Cosponsored by ORGN

M. Henary, G. Patonay, Organizers, Presiding

1:30 ANYL 533. Near-IR fluorescent detection of blood analytes using erythrocyte-encapsulated sensors. *H. Sepasizangabadi, G. Gilyot, N.P. Cooley, T.E. Glass*

2:00 ANYL 534. Nuclear-NIR multifunctional contrast agents for pancreatic cancer imaging. *H. Choi, K. Bao*

2:20 ANYL 535. Far-red and near-infrared semianaphthofluorophores for targeted imaging of pancreatic cancer. *R.M. Strongin*

2:40 ANYL 536. Near-infrared fluorescent probes for detection of pH in live cells. *M. Fang*

3:00 ANYL 537. Near infrared fluorescent imaging of brain tumor with IR780 dye incorporated phospholipid nanoparticles. *Q. Xie*

3:20 ANYL 538. Fiber optical near infrared spectrometry (FONIRS) for non-invasive monitoring of skin accumulation of systemically injected drug carriers. *J. Griffin, M. Benchimol, D. Simberg*

3:40 ANYL 539. Genetically encoded near-infrared fluorescent probes for *in vivo* imaging. *K.D. Piatkevich*

4:00 ANYL 540. Fluorescent copolymerized silica nanoparticles: Synthesis and applications. *G. Patonay, G. Chapman, M. Henary, W. Abdelwahab*

SECTION C

*Boston Convention & Exhibition Center
Room 157A*

Advances in Spectroscopy

J. M. Harris, Organizer

D. A. Sheen, Presiding

1:30 ANYL 541. Super-resolution force spectroscopy. *S. Xu*

1:55 ANYL 542. High sensitivity infrared nanospectroscopy enabled by nanophotonic AFM transducers. *G. Ramer, J. Chae, S. An, V. Aksyuk, A. Centrone*

2:20 ANYL 543. Infrared nanopolarimetric analysis of structure and anisotropy of thin films. *K. Hinrichs, T. Shaykhtudinov*

2:45 ANYL 544. ATR-FTIR study of bacteria and proteins on the bare and coated ZnSe internal reflection element. *H. Li, R. Chen, C. Guo*

3:10 Intermission.

3:20 ANYL 545. Data harmonization in metabolomics for quality assurance and control. *D.A. Sheen, B.A. Benner, Y. Simon, W. Rocha, C.M. Jones, N. Blander, K.A. Lippa*

3:45 ANYL 546. Using principal component analysis to select an appropriate matrix for solid standards in laser-induced breakdown spectroscopy. *D. Rusak, C. Hudson, F. Alffi*

4:10 ANYL 547. Significance of preanalytical factors in measuring Cr and Co levels in human whole blood. *Y.L. Sommer, C. Ward, J.C. Georgi, P. Cheng, K.L. Caldwell, R.L. Jones*

4:35 ANYL 548. IRMPD spectroscopy of carbohydrates: Fundamental questions and application to glycomics. *I. Compagnon*

SECTION D

*Boston Convention & Exhibition Center
Room 157B*

Student Organized Symposia: Enabling Spectroscopies for Nanomaterial Applications: Energy Conversion to Therapeutics

Cosponsored by YCC

S. Crawford, X. Gan, L. Marbella, Organizers, Presiding

1:30 Introductory Remarks.

1:35 ANYL 549. Ultrafast Raman spectroscopic probes of solar cells and plasmonic photocatalysts. *R.R. Frontiera*

2:10 ANYL 550. Ultrasensitive "OFF-ON" fluorescence signal strategy for sensing and imaging microRNAs *in vitro* and *in vivo* based on oriented gold nanoconjugates. *J. Sun, X. Sun*

2:35 ANYL 551. Time-resolved laser spectroscopy applied to nanomaterials: From quantum dots to thin films. *C. Burda*

3:10 Intermission.

3:25 ANYL 552. X-ray emission spectroscopy as an enabling tool for the characterization of emissive quantum dots. *B.M. Cossairt, J. Stein, W. Holden, G. Seidler*

4:00 ANYL 553. Active monitoring of cellular uptake, controlled nucleic acid release, and coordinated cellular responses using a gold nanoparticle bio-optical transponder (nano-BOT). *G.F. Strouse*

4:35 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Room 157C*

Advances in Mass Spectrometry

M. F. Bush, Organizer, Presiding

1:30 ANYL 554. Using mass spectrometry to exploit a single isoleucine/leucine difference in ERK substrate binding sites for activity-based profiling of MAPK signaling. *M. Shin, C.E. Franks, K. Hsu*

1:55 ANYL 555. AuNPs for enhanced ionization and fragmentation of biomolecules using LDI-MS. *K.A. Stumpo*

2:20 ANYL 556. Effective matrix-free sample plate of highly ordered gold nanoparticle thin film in surface-assisted laser desorption/ionization mass spectrometry for quantitative analysis of bone biomarkers in osteoporosis. *X. Pan, T. Chang, K. Chen, S. Tan, J. Kuo, T. Kuo*

ANYL/BIOT/BIOL

2:45 ANYL 557. Swab touch spray ionization mass spectrometry for rapid analysis of trace residues of forensic relevance. *P.W. Fedick, R.M. Bain, W.L. Fatigante, C.C. Mulligan, R.G. Cooks*

3:10 Intermission.

3:20 ANYL 558. Identifying volatile organic compounds in mouse urine that distinguish between localized and metastatic breast cancer using gas chromatography-mass spectrometry QTOF. *M.D. Woollam, M. Teli, P. Angarita, S. Liu, A. Siegel, H. Yokota, M. Agarwal*

3:45 ANYL 559. Towards enhanced metabolomic data analysis of mass spectrometry image: Multivariate curve resolution and machine learning. *X. Tian, G. Zhang, Y. Shao, Z. Yang*

4:10 ANYL 560. Identification of *ortho*-substituted benzoic acid/ester derivatives via the gas-phase neighboring group participation effect in (+)-ESI high resolution mass spectrometry. *H. Sheng, W. Blincoe, A. Rodriguez Granillo, J. Sauri, N.A. Pierson, L.A. Joyce, I.K. Mangion*

4:35 ANYL 561. Application of mass spectrometry to analysis of applications of Fokker-Plank equation to the velocity of chemical reactions. *M. Fundator*

11:20 BIOL 4. The chemistry of newborn screening, diagnosis, and prognosis of genetic diseases. *M.H. Gelb*

SECTION B

*Boston Convention & Exhibition Center
Room 153C*

Early Career Investigators in Biological Chemistry

P. C. Bevilacqua, *Organizer*
S. O. Kelley, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 BIOL 5. Chemical proteomics approaches to interrogate the RNA epitranscriptome. *R. Kleiner*

8:55 BIOL 6. Bystander-assisted immunotherapy: A molecular approach to drugging drug resistance. *R.J. Mancini, A.E. Nielsen, J. Hantho, A.J. Burt*

9:15 BIOL 7. IMPACT: A chemical strategy for imaging phospholipase D and phosphatidic acid signaling. *J.M. Baskin*

9:35 BIOL 8. Structural basis of fatty acyl recognition and transfer by DHHC palmitoyltransferases. *A. Banerjee, M. Rana, P. Kumar, C. Lee, R. Verardi*

9:55 BIOL 9. Chemical optogenetic modulation of inflammation and immunity. *P. Chang*

10:15 Intermission.

10:30 BIOL 10. Small molecule stimulators of the 20S core particle of the proteasome to degrade excess proteins. *D.J. Trader, R. Coleman*

10:50 BIOL 11. Exciton engineering for deep-brain imaging of modulatory neurotransmitters. *A. Beyene, J. Del Bonis O'Donnell, M. Landry*

11:10 BIOL 12. Detect protein aggregation in live cells with turn-on fluorescence. *X. Zhang*

11:30 BIOL 13. Elucidating mechanisms of substrate transport in membrane transporters. *D. Shukla*

11:50 BIOL 14. Ligand binding pathways and conformational transitions of the HIV protease. *Y. Miao, Y.M. Huang, R. Walker, J. McCammon, C. Chang*

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Use of Computer Simulation to Teach Chemical Kinetics & Enzyme Kinetics in Undergraduate Research & Education

Sponsored by CHED, Cosponsored by BIOL and COMP

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL⁺, COLL and PHYS⁺

Advances in Sensors & Biosensors for Environmental Monitoring

Sponsored by ENVR, Cosponsored by ANYL and BIOL

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 153B*

Chemical Approaches to Interrogate Cell Biology

P. C. Bevilacqua, S. O. Kelley, *Organizers*
E. Miller, *Organizer, Presiding*

1:30 BIOL 15. Beyond proteomics: Simultaneous profiling and decoding precision protein-cysteine signaling axes in living cells, fish, and worms. *Y. Aye*

2:05 BIOL 16. Chemical tools for interrogating metalloenzymes in cells and in vivo. *E.L. Que*

2:40 Intermission.

2:55 BIOL 17. Electrophysiology: Unplugged. New chemistries to probe cellular physiology. *E. Miller*

3:30 BIOL 18. DNA nanodevices map enzymatic activity in vivo. *Y. Krishnan*

SECTION A

*Boston Convention & Exhibition Center
Room 153B*

Gordon Hammes Award Lecture

P. C. Bevilacqua, S. O. Kelley, *Organizers*
A. Schepartz, *Presiding*

4:30 Introductory Remarks.

4:35 BIOL 19. Using clickable substrate mimics to illuminate phospholipase D activity within cells. *T.W. Bumpus, J.M. Baskin*

4:50 Introduction of Awardees.

4:55 BIOL 20. Exploring enzymatic transition states. *V.L. Schramm*

SECTION B

*Boston Convention & Exhibition Center
Room 153C*

Debunking Myths of the Undruggable & Indistinguishable

P. C. Bevilacqua, S. O. Kelley, *Organizers*
A. E. Hargrove, *Organizer, Presiding*

1:30 BIOL 21. Direct cytosolic delivery of nucleic acids and proteins (including CRISPR/Cas9) through membrane fusion: Who needs endosomes? *V.M. Rotello*

2:10 BIOL 22. Supramolecular sensing of post-translational modifications. *M. Waters*

2:50 Intermission.

3:05 BIOL 23. Expanding the chemical space for RNA recognition. *B.L. Miller*

3:45 BIOL 24. Aminoglycoside receptors reveal patterns in RNA recognition and conformational change. *A.E. Hargrove*

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL⁺, COLL and PHYS⁺

Advances in Sensors & Biosensors for Environmental Monitoring

Sponsored by ENVR, Cosponsored by ANYL and BIOL

SUNDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Current Topics

P. C. Bevilacqua, S. O. Kelley, *Organizers*

6:30 – 8:30

BIOL 25. Potential peptide based on *in silico* analysis can bind proinflammatory cytokines as a therapeutic strategy for anti-inflammation. *H. Huang, H. Hsu, S. Jiang*

BIOL 26. Identification and reduction of undesirable PAINS and dead end ligands from an agricultural fungicide screening program. *S. Meyer*

BIOL 27. Modulating the binding affinity of Pal to peptidoglycan. *X. Liu, S. Lewis, S. Stanton, C. LaClair, S. Phadke, L. Vacca Michel*

BIOL 28. Rapid protein identification with an open port sampling interface coupled to a compact mass spectrometer. *C. Hao, D. Eikel, S. Prosser, J.D. Henion*

BIOL 29. Using NMR to study the aggregation and diffusion of a phase separating eye lens protein. *A. Fadden, J. Faraone, K. Umphred-Wilson, M. O'Neil, J.L. Mills, G. Thurston, L. Vacca Michel*

BIOL 30. Thioamides and proteolysis: Examining the effects and applications of a single-atom substitution. *T. Barrett, X. Chen, C. Liu, J. Wang, E. Petersson*

BIOL 31. Glutaric acid production from 5-aminovaleric acid using aminovalerate aminotransferase and semialdehyde dehydrogenase in *Escherichia coli* as whole cell biocatalyst. *E. Lee, Y. Hong, S. Hyun, E. Kim, J. Ju, Y. Yang, H. Jeong, K. Park*

BIOL 32. Peptide assisted supramolecular polymerization of the anionic porphyrin meso-tetra(4-sulfonatophenyl)porphine. *E.M. Kohn, D.J. Shirley, H.C. Fry, G.A. Caputo*

BIOL 33. Novel chemistry for site-specific antibody bioconjugates. *T.I. Chio, H. Gu, K. Mukherjee, L. Tumej, S.L. Bane*

BIOL 34. Load bearing properties of cartilage. *F. Horkay, E.K. Dimitriadis, I. Horkayne-Szakaly, P.J. Bassar*

BIOT

DIVISION OF BIOCHEMICAL TECHNOLOGY

MONDAY AFTERNOON

Undergraduate Research Posters
Biotechnology

Sponsored by CHED, Cosponsored by BIOT and SOCED

BIOL

Division of Biological Chemistry

S. Kelley and P. Bevilacqua, *Program Chairs*

OTHER SYMPOSIA OF INTEREST:

CRISPR (*see AGFD, Thur*)

Molecular Interactions of Synthetic Nanoparticles with Membranes (*see ANYL, Wed*)

Nanoanalytical Chemistry for Biological & Material Sciences (*see ANYL, Sun*)

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier (*see ANYL, Sun, Mon*)

Glycoprotein & Carbohydrate-Based Drugs for Human Health (*see CARB, Tue, Wed*)

Biologically Related Molecules & Processes (*see ORGN, Mon, Tue*)

SUNDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 153B*

Repligen Award for the Chemistry of Biological Processes

P. C. Bevilacqua, S. O. Kelley, *Organizers*
S. G. Withers, *Presiding*

9:00 Introductory Remarks.

9:05 BIOL 1. Selective thyroid hormone agonists for central nervous system diseases. *T.S. Scanlan*

9:45 BIOL 2. Discovery, design and development of human amylase inhibitors: From nM to pM. *S.G. Withers*

10:25 Intermission.

10:40 BIOL 3. Genome editing as a therapy for Duchenne muscular dystrophy. *C. Gersbach, C. Nelson, J. Robinson-Hamm, J. Kwon*

- BIOL 35.** Site-specific installation of succinyl lysine analog into histones reveals the effect of H2BK34 succinylation on nucleosome dynamics. **Y. Jing, Z. Liu, G. Tian, X. Bao, T. Ishibashi, X.D. Li**
- BIOL 36.** Structural interrogation of microbial dynamenic biosynthetic enzymes. **S. Alvarado, S.G. Van Lanen, J.S. Thorson, G.N. Phillips**
- BIOL 37.** Effects of Asn47 and Asn54 to Ser mutation on Amicyanin. **S. Jeoung, M. Choi, S. Shin**
- BIOL 38.** Pharmacoproteomic analysis highlights the dabigatran induced downregulation of integrin triggered signaling and inhibition of aggregation in thrombin activated human platelets. **J. Gonzalez, A. Babinska, E.L. Ewul, M. Dzieciatkowska, E. Timpo, M. Salifu, C.C. Clement**
- BIOL 39.** Bioconjugation of functional molecule to transthyretin amyloids by transpeptidase Sortase A. **M. Sakano, T. Ohshima, A. Miyakoshi**
- BIOL 40.** Advanced optochemical biological probes for photoinducible protein swapping. **D. Wu, C. Aonbangkhen, D.M. Chenoweth**
- BIOL 41.** Effect of nanoparticle polyethylene glycol surface density on ecumicin: Toward redesigning the PEG surface of nanocarriers for drug delivery. **S. Hwang**
- BIOL 42.** Rapid micro-molding process for fabricating polymeric 3D structures with biomaterials using hydrophobic elastomeric molds. **S. Hwang**
- BIOL 43.** Covalent trapping of human ADAR catalytic domain using thiol modified dsRNA. **S. Park, C. Palumbo, P.A. Beal**
- BIOL 44.** Quality control of phytopharmaceuticals in Costa Rica with the use of ¹H-NMR and PCA. **L. Padilla-Cortes, J. Quesada, R. Murillo**
- BIOL 45.** Selective peptide binders for PDL1 as an immunogenic target in cancer. **G. Kamalinia, T.T. Takahashi, R.W. Roberts**
- BIOL 46.** Chemotherapeutics modulate cancer stemness in breast tumor spheroids. **D.S. Reynolds, Z.F. Mattes, K.M. Tevis, W.A. Blessing, Y.L. Colson, M.H. Zaman, M.W. Grinstaff**
- BIOL 47.** Characterization and enzyme mechanism of human pyrroline-5-carboxylate reductase 2 (HsPYCR2) wild-type and disease variants. **S.M. Patel, D.F. Becker**
- BIOL 48.** Rapid detection of cellular phenotypic changes using nanosensors: Applications in toxicology and cancer stem cell therapeutics. **Y. Geng, N. Le, H. Goel, T. Yoshii, A. Mercurio, V.M. Rotello**
- BIOL 49.** Organic framework derived porous carbon nanomaterial for cancer imaging and phototherapy. **S. Guan**
- BIOL 50.** Syntheses and evaluation of photoactivatable myristoyl analogues for identification of new binding partners of UNC119 proteins. **N. Kaiser, T. Mejuch, P. Janning, H. Waldmann**
- BIOL 51.** Synthetic multivalent MUC1 glycopeptide architecture based on β -cyclodextrin. **Y. Yu, P. Chen, Y. Li**
- BIOL 52.** Synthesis and characterization of biogenic selenium nanoparticles with antimicrobial properties made by *Staphylococcus aureus*, methicillin-resistant *Staphylococcus aureus* (MRSA), *Escherichia coli* and *Pseudomonas aeruginosa*. **D. Medina Cruz, T. Webster**
- BIOL 53.** Natural products from the *Populus* microbiome protect against *Pseudomonas syringae* induced leaf blight. **P.M. Blair, M. Ridout, G. Newcombe, D. Pelletier, M. Doktycz**
- BIOL 54.** Smart Chitosan polymeric derivatives as human genome carriers. **H.S. Al-Lami, A.A. Saleh, S.H. Mutasher**
- BIOL 55.** Classical and variant approaches to synthesis of N-Mannich bases of phenyl hydroxyl ketones, their characterization, urease inhibition and antioxidant activities. **G.K. Oloyede, S.M. Ali, M. Lateef, G. Anyaele, A. Mayowa**
- BIOL 56.** Two engineered OBPs with opposite temperature-dependent affinities towards 1-aminoanthracene. **F. Goncalves, T.G. Castro, N.G. Azoia, A. Ribeiro, C. Silva, A. Cavaco-Paulo**
- BIOL 57.** Mass spectrometric characterization of a recombinant 'two-target' fusion protein. **S. Bhoraskar, C. Ramineni, J. Xu**
- BIOL 58.** Complex dynamics of hormone perception and receptor activation in plant drought resistance signaling. **C. Zhao, D. Shukla**
- BIOL 59.** Enzymatic synthesis of sequence-defined synthetic nucleic acid polymers: Application to in vitro selection of diversely functionalized DNA aptamers. **Y. Lei, D. Kong, R. Hiii**
- BIOL 60.** Binding interaction of the bee venom peptide melittin with the small heat shock protein alpha crystallin. **L. Ramirez, A. Shekhtman, J. Pande**
- BIOL 61.** Transport of amyloid- β across the blood-brain barrier by P-glycoprotein: A novel therapeutic target in Alzheimer's disease. **H. Holt, E. Moore, M. Riese, M. Faucett, F. Gonzalez, M. Moss**
- BIOL 62.** Novel virus inspired approach to discover first in class preclinical assets for a range of therapeutic areas. **B. de Chasse, L. Meyniel-Schicklin, M. Denizot, L. Lines, P. Mallinjoind, J. Vonderscher, E. Meldrum**
- BIOL 63.** Quantifying tradeoffs in FRET-based biosensor design. **S. Ghilardi, A.P. Weaver, A.E. Sgro**
- BIOL 64.** Identification of an archaeal maltotriolglytrehalose trehalohydrolase encoded by an interrupted gene. **Y. Zhou, G. Xie, L. Chang, Y. Wang, R. Gao**
- BIOL 65.** Novel antimicrobials from the sea: The various antimicrobial mechanisms of the Clavanins. **S.A. Juliano, J. Portelinha, A.M. Angeles Boza**
- BIOL 66.** Cadmium associates to DREAM and alters its interactions with intracellular partners. **S. Azam, J. Miksovska**
- BIOL 67.** Molecularly imprinted magnetic bacterial cellulose nanofibers for recognition of nucleoside. **Y. Saylan, K. Pospiskova, I. Safarik, A. Denizli**
- BIOL 68.** Effects of conformational dynamics on enzyme evolution in TIM-barrel-fold proteins. **D. Petrovic, S.C. Kamerlin**
- BIOL 69.** Magnesium regulates the circadian oscillator in cyanobacteria. **Y.M. Jeong, Y. Kim**
- BIOL 70.** Optimizing an allosteric protein for lanthanide binding by rationally designed modification of the metal binding site. **M.P. Takacs, A. Gigon, O. Makhlynets, I.V. Korendovych**
- BIOL 71.** Cloning and expression of recombinant chondroitinase AC II and its comparison to the *Arthrobacter auescens* enzyme. **A. Williams, W. He, M. Koffas, R.J. Linhardt, B. Cress**
- BIOL 72.** Use of peptides as cofactors for RNA-cleaving deoxyribozymes. **R. Sapia**
- BIOL 73.** Expanding the potential pnylome through unanticipated prenylation of non-canonical C-terminal peptide sequences. **S. Ashok, W.K. Schmidt, J. Houglund**
- BIOL 74.** Development and molecular understanding of plasmonic photothermal therapy (PPTT) in combating cancer. **M.R. Ali**
- BIOL 75.** Effects of man-made nanoparticles on aerobic denitrification by strain *Pseudomonas stutzeri* PCN-1. **Q. Chen**
- BIOL 76.** Enzyme-induced gain of function strategy for selective cancer therapy. **Q. Li, Y. Li**
- BIOL 77.** Synthesis and characterization of a highly biocompatible and fluorescent carbon material: Graphene oxide quantum dots. **J.E. Ortiz-Santiago, R. Carrasquillo-De Jesus, V. Rivera-Rodriguez, L. Cunci**
- BIOL 78.** Angiopoietin-1 accelerates restoration of endothelial cells barrier integrity from nanoparticle-induced leakiness. **J. Tee, M. Setyawati, F. Peng, D. Leang, H. Ho**
- BIOL 79.** Ligase catalyzed oligonucleotide polymerization with adjustable linker length. **C. Guo, Y. Mahdavi-Amiri, R. Hill**
- BIOL 80.** Structural characterization of protein-small molecule interactions in ternary complexes using photoaffinity labelling and mass spectrometry: Studies with the macrocyclic natural product rapamycin. **H.A. Flaxman, C. Chang, C. Woo**
- BIOL 81.** Probing interactions of β -galactosidases with galactonoamides. **J.B. Pickens, S. Striegler**
- BIOL 82.** Nanoparticle uptake using correlative light-electron microscopic (CLEM) techniques. **B. Caffrey**
- BIOL 83.** Fenamate protects against 1-methyl-4-phenylpyridinium-induced apoptosis in dopaminergic MN9D cells. **V. Le, M. Mapa, K. Wimalasena**
- BIOL 84.** Antimicrobial investigation of three essential components of *Piper betle* leaves against oral bacteria. **M. Lopez, M. Hadisurya, R. Cornwall**
- BIOL 85.** Designed enzyme promotes selective post-translational acylation. **P. Gosavi, M. Jayachandran, J.J. Rempillo, O. Makhlynets, I.V. Korendovych**
- BIOL 86.** Computational studies of the NUDIX hydrolase superfamily. **S. Richman, K. O'Donovan, P.A. Craig, J.L. Mills, S.F. O'Handley**
- BIOL 87.** NagD from *Yersinia pestis*. **M. Le, L. Dass, I. Moreno, S.F. O'Handley**
- BIOL 88.** Photodynamic inactivation of multidrug-resistant *Staphylococcus aureus* (MRSA) using hybrid photosensitizers based on amphiphilic block copolymer functionalized gold nanoparticles. **N. Wijesiri, T. Ozkaya Ahmadov, P. Wang, J. Zhang, H. Tang, X. Yu, N. Ayres, P. Zhang**
- BIOL 89.** Structure and function of Terfestatin biosynthesis proteins TerB and TerC. **J. Clinger, S. Elshahawi, Y. Zhang, R. Hall, Y. Liu, M.D. Miller, J.S. Thorson, G.N. Phillips**
- BIOL 90.** Probing the protein-protein interactions in nonribosomal peptide synthetases: Understanding the mechanism of epimerization domain activity. **W.E. Kim, A. Patel, M.D. Burkart**
- BIOL 91.** Biological evaluation of a blood-brain barrier permeable oxime: *in vitro* and *in vivo* evaluation of LLNL-02. **M.A. Malfatti, H.A. Enright, N.A. Be, S. Hok, V. Lao, E.A. Kuhn, B.J. Bennion, T.S. Carpenter, F.C. Lightstone, T.H. Nguyen, C.A. Valdez**
- BIOL 92.** Development of a blood-brain barrier permeable oxime: *in silico* and chemical synthesis of a neutral acetylcholinesterase reactivator. **C.A. Valdez, B.J. Bennion, T.S. Carpenter, H.A. Enright, M.A. Malfatti, N.A. Be, V. Lao, S. Hok, E.A. Kuhn, F.C. Lightstone, T.H. Nguyen**
- BIOL 93.** Probing a network of interacting amino acid side chains at orotidine 5'-monophosphate decarboxylase. **A. Reyes, D. Plache, A.P. Koudelka, T.L. Amyes, J.P. Richard**
- BIOL 94.** Determining the role of Pal in *Escherichia coli* sepsis. **L. Gallardo, M. Zavorin, C. McNamara, J. Pierce, M. Bauer, J. Hellman, M. Pichichero, L. Vacca Michel**
- BIOL 95.** Peptide vaccine targeting Pyroglutamate-3 Amyloid β induces strong immune response and reduces cognitive decline in Alzheimer's disease model mice. **H. Chen, G. Li, P. Chen, Z. Hu, Y. Chen, Y. Zhao, Y. Li**
- BIOL 96.** Thermo-switchability of β -Glucuronidase variants revealed through single-molecule studies. **Y. Jiang, A. Pothukuchy, A. Simon, B. Morrow, A.D. Ellington, D.R. Walt**
- BIOL 97.** Red light-triggered sensing of RNAs in living cells. **T. Bachmann, O. Zozulia, A. Mokhir**
- BIOL 98.** Thermodynamics of chiral α,α -dialkylated amino acid incorporation in a β -hairpin peptide. **S. Schettler, W.S. Horne, G. Lengyel**
- BIOL 99.** Metabolomic lipid profiling of dinoflagellates under saturation and starvation conditions: Identification of biomarkers of coastal ecosystem health. **K. Roohani, B.A. Haubrich, K. Yue, N. D'souza, S. Menden-Deuer, T. Rynearson, C. Reid**
- BIOL 100.** Combination cancer treatment through photothermally controlled release of selenous acid from gold nanocages. **H. Cheng, D. Huo, Y. Xia**
- BIOL 101.** Photopharmaceutical therapy utilizing vitamin B₁₂ as a molecular scaffold. **D.C. Zites, C.G. Sheveland, T.A. Shell**
- BIOL 102.** Structure of influenza hemagglutinin antibody from *Rhesus Macaque* with disulfide bond in its CDRH3. **H.A. Chaires, G. Bajic, M.A. Moody, S.C. Harrison**
- BIOL 103.** Development of photo-cross-linking oligodeoxyribonucleotides with 2'-O-diazirine-conjugated nucleosides. **S. Tatsumi, H. Hirose, A. Kobori**
- BIOL 104.** Selenium-atom-modified DNAs with high stability and antisense activity for gene silencing and drug discovery. **Z. Fang, W. Zhang, Q. Lin, Z. Huang**
- BIOL 105.** Combining polymyxin B with ionic liquids in aqueous solution for disrupting lipid vesicles and enhancing antibiotic activities. **K. Cook, G.A. Caputo, T.D. Vaden**
- BIOL 106.** Innovation of new luciferin analog for *in vivo* optical imaging. **R. Saito, N. Kitada, M. Kiyama, S. Higashi, S.W. Lu, R. Obata, T. Hirano, S. Maki**
- BIOL 107.** Effects of alkylimidazolium chloride ionic liquids on myoglobin denaturation by zwitterionic, cationic, and anionic detergents. **J.Y. Lee, E.M. Kohn, K.M. Selfridge, T.D. Vaden, G.A. Caputo**
- BIOL 108.** Characterization of the human $\alpha 2,6$ sialyltransferase ST6GalNAc1. **M.S. Hanes, C.E. Cutler, S. Dutta, N. Jia, R. Cummings**
- BIOL 109.** Redox at the cell surface and beyond: Probing the dynamic redox environment surrounding a cell. **C. Foster, T. Yu, R. Dutt, L. Jiang, D. Galileo, C. Thorpe**
- BIOL 110.** Novel near infrared absorbing and fluorescent dyes for bioimaging. **L. Takiff, R. Pawle, K.M. Bardon, R. Minns, S. Selfridge**
- BIOL 111.** Characterization of the colibactin-activating peptidase ClbP and design of a fluorogenic activity probe. **M. Volpe, M. Wilson, C.A. Brotherton, E. Balskus**

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 153B

BIOL

Eli Lilly Award in Biological Chemistry

P. C. Bevilacqua, S. O. Kelley, *Organizers*
M. Shoulders, *Presiding*

9:00 BIOL 112. Engineering ligand-based receptor agonists or antagonists as next-generation protein therapeutics.

J. Cochran

9:40 BIOL 113. New strategies to explore the interplay between proteostasis and evolution. *M. Shoulders*

10:20 Intermission.

10:35 BIOL 114. Identifying and targeting tumor neoantigens. *C. Wu*

11:15 BIOL 115. Synthetic polymer xenoproteins. *B.L. Pentelute*

SECTION B

Boston Convention & Exhibition Center
Room 153C

Debunking Myths of the Undruggable & Indistinguishable

P. C. Bevilacqua, S. O. Kelley, *Organizers*
A. E. Hargrove, *Organizer, Presiding*

9:00 BIOL 116. Covalent targeting of protein interfaces. *M. Arkin*

9:40 BIOL 117. Towards testing the miRNA proxy hypothesis: Cracking the glycodecode with miRs. *L.K. Mahal*

10:20 Intermission.

10:35 BIOL 118. Using the power of protein based nanotechnology based immunotherapy to target cancer.

C.R. Wagner

11:15 BIOL 119. Targeting NF-kappaB signaling with large and small molecules. *A.K. Mapp*

Structures & Functions of Glycans

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MONDAY AFTERNOON**SECTION A**

Boston Convention & Exhibition Center
Room 153C

Graduate Student & Postdoctoral Fellow Symposium

P. C. Bevilacqua, S. O. Kelley, *Organizers*
E. Lei, *Presiding*

1:30 BIOL 120. A biorthogonal ligation of cyclopropeniminium cations and phosphines. *T. Heiss, R. Row, J.A. Prescher*

1:45 BIOL 121. Cysteine reactivity and functionality across the subcellular universe. *D. Bak, M. Pizzagalli, E. Weerapana*

2:00 BIOL 122. Targeting the powerhouse of the cell with chemical probes. *S.O. Kelley, E. Lei*

2:15 BIOL 123. Hypoxia activated small molecule induced gene expression. *S.L. Collins, E.M. Hammond, S.J. Conway*

2:30 BIOL 124. Utilizing small molecule tools to identify and target structural motifs in an oncogenic long non-coding RNA. *A. Donlic, J. Xu, A. Liu, C. Roble, E. McFadden, M. Puri, A.E. Hargrove*

2:45 BIOL 125. Highly tunable quinoline-based fluorescent small molecule scaffold for live cell imaging. *J.V. Jun, E. Petersson, D.M. Chenoweth*

3:00 BIOL 126. Light-activated chemical probing of nucleobase solvent accessibility inside cells. *C. Feng, D. Chan, J. Joseph, M. Muuronen, W.H. Coldren, F.U. Furche, C.M. Hadad, R.C. Spitale*

3:15 BIOL 127. Tracking of engineered bacteria *In Vivo* using non-standard amino acid incorporation. *P. Praveschotinunt, N. Darval Courchesne, I. den Hartog, C. Lu, J.J. Kim, N.S. Joshi*

3:30 Intermission.

3:45 BIOL 128. Protein folding in single-cells of living zebrafish. *C. Davis, R. Feng, M. Gruebele*

4:00 BIOL 129. Assaying RNA localization *In Situ* with spatially restricted oxidation via red light. *Y. Li, R.C. Spitale, M.B. Aggarwal, K. Ke, V. Guan*

4:15 BIOL 130. Glycan-modified bacteriophage evokes Th1-type (cancer-relevant) immune responses. *M. Alam, C.M. Jarvis, R. Hincapie, C. Sanhueza-Chavez, C. McKay, J. Schimer, K. Xu, J. Hank, J. Olsen, P. Sondel, M. Cook, M. Finn, L.L. Kessling*

4:30 BIOL 131. Human gut microbes metabolize the Parkinson's disease drug Levodopa. *V. Maini Rekdla, E. Balskus*

4:45 BIOL 132. Chemical and structural insights into developing synthetic ligands for a PreQ₁ riboswitch. *C.M. Connelly, T. Numata, R.E. Boer, M.H. Moon, R.S. Sinniah, A.R. Ferré-D'Amaré, J.S. Schneekloth*

5:00 BIOL 133. Bioinformatics and chemistry join forces for antibiotics discovery. *J. Chu, X. Vila-Farres, C. Lemetre, M. Ternei, S.F. Brady*

5:15 BIOL 134. Host chaperones facilitate influenza nucleoprotein immune escape. *A. Ponomarenko, A. Phillips, K. Chen, J. Miao, S. McHugh, V. Butty, S. Levine, Y. Lin, M. Shoulders*

SECTION B

Boston Convention & Exhibition Center
Room 153B

Precision Genome Engineering

P. C. Bevilacqua, S. O. Kelley, *Organizers*
A. Choudhary, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 BIOL 135. CRISPR gene editing: How it works; where it's going. *J. Doudna*

2:15 BIOL 136. Nucleic acid delivery systems for RNA therapy and gene editing. *D.G. Anderson*

2:55 BIOL 137. Small-molecule activators, inhibitors, and degraders of CRISPR-Cas9 in cells and organisms. *A. Choudhary*

3:35 Intermission.

3:50 BIOL 138. Synthetic gene networks: A bottom-up approach to genome engineering. *J. Collins*

4:30 BIOL 139. Base editing: Chemistry on a target nucleotide in the genome of living cells. *D.R. Liu*

5:10 Concluding remarks.

Structures & Functions of Glycans

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Undergraduate Research Posters**Biochemistry**

Sponsored by CHED, Cosponsored by BIOL and SOCED

Environmental Biofilm Engineering: Harnessing the Power of Biofilms for Contaminant Removal & Resource Recovery

Sponsored by ENVR, Cosponsored by BIOL

Tetrahedron Prize

Sponsored by ORGN, Cosponsored by BIOL, CARB and MEDI

MONDAY EVENING**SECTION A**

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

P. C. Bevilacqua, S. O. Kelley, *Organizers*

8:00 – 10:00

40, 45, 48, 51, 80, 85, 90, 96, 100, 102, 109. See previous listings.

160, 166, 174, 200-201, 214, 227, 234. See subsequent listings.

TUESDAY MORNING**SECTION A**

Boston Convention & Exhibition Center
Room 153B

Pfizer Award in Enzyme Chemistry

P. C. Bevilacqua, S. O. Kelley, *Organizers*
J. Stubbe, *Presiding*

8:45 Introductory Remarks.

8:50 BIOL 140. Functional forays in the human gut microbiome. *J. Clardy*

9:30 BIOL 141. Essential versus vulnerable: Targeting IMP dehydrogenase for antimicrobial therapy. *L. Hedstrom*

10:10 Intermission.

10:25 BIOL 142. Half-Sites reactivity of ribonucleotide reductase: biochemical and EM structural evidencea. *J. Stubbe, K. Ravichandran, M. Bennati, M.R. Seyedsayamdost, C.L. Drennan, E. Brignole, G. Kang, A. Taguchi*

11:05 BIOL 143. New metalloenzyme-catalyzed transformations in natural product biosynthesis. *M.R. Seyedsayamdost*

SECTION B

Boston Convention & Exhibition Center
Room 153C

Chemical Immunomodulation

P. C. Bevilacqua, S. O. Kelley, *Organizers*
C. M. Woo, *Organizer, Presiding*

8:45 BIOL 144. Chemical biology of anti-cancer innate immunity. *L. Li*

9:20 BIOL 145. Binding site hotspot mapping to elucidate new immunomodulatory targets of old drugs. *C. Woo*

9:55 BIOL 146. Small molecules and macrocycles antagonizing human PD1-PDL1. *A. Doemling, T. Holak, S. Shaabani, T. Zarganis, K. Magiera-Mularz, K. Zak, G. Dubin*

10:30 Intermission.

10:45 BIOL 147. Towards therapeutic targeting of the MUSASHI RNA binding protein network. *M. Kharas*

11:20 BIOL 148. Targeted protein degradation induced by thalidomide analogs. *B. Ebert*

11:30 Intermission.

11:45 BIOL 149. Evolved RNA polymerase biosensors to analyze, control, and reprogram biology. *B.C. Dickinson*

12:10 BIOL 150. Re-engineering DNA polymerases to recognize xeno-nucleic acids (XNAs). *J.C. Chaput*

12:45 BIOL 151. A semi-synthetic organism that stores and retrieves increased genetic information. *F.E. Romesberg*

3:20 Intermission.

3:35 BIOL 152. Synthetic biology approaches to biorthogonal chemistry. *M. Chang, J. Marchand, M. Neugebauer*

4:10 BIOL 153. Synthesis at the interface of virology and genetic code expansion. *R. Kelemen, S. Erickson, A. Chatterjee*

4:30 Intermission.

4:45 BIOL 154. Rationally designed antibiotics eliminate multi-drug resistant bacteria. *A. Chatterjee*

5:15 BIOL 155. Engineering lactic acid bacteria to control infectious diseases. *T. Lu*

5:30 Intermission.

5:45 BIOL 156. Engineering lactic acid bacteria to control infectious diseases. *T. Lu*

TUESDAY AFTERNOON**SECTION A**

Boston Convention & Exhibition Center
Room 153C

Synthetic Chemical Biology

P. C. Bevilacqua, S. O. Kelley, *Organizers*
A. Chatterjee, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 BIOL 149. Evolved RNA polymerase biosensors to analyze, control, and reprogram biology. *B.C. Dickinson*

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5:15 BIOL 155. Engineering lactic acid bacteria to control infectious diseases. *T. Lu*

5:30 Intermission.

5:45 BIOL 156. Engineering lactic acid bacteria to control infectious diseases. *T. Lu*

2:40 BIOL 156. Chemical tools for unraveling parasite biology. *E. Derbyshire*

3:15 BIOL 157. The challenges of antibacterial drug discovery, development, and commercialization: A fine balancing act of contradictions in terms. *J. Leeds*

TUESDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Current Topics

P. C. Bevilacqua, S. O. Kelley, *Organizers*
6:00 – 8:00

BIOL 158. Tracking dopamine with ¹⁹F-MRI/S using pH-sensitive false neurotransmitters. *M.R. Post, D. Sames, D. Sulzer*

BIOL 159. Isolation and characterization of aerobic denitrifying bacteria based on activated sludge from refinery wastewater treatment. *X. Lang*

BIOL 160. From synthesis to pathology: Identifying glucosylated glycoproteins in diabetes and aging. *M. Streeter, T. Goddard, J. Crawford, D.A. Spiegel*

BIOL 161. Effects of antifreeze proteins on temperature-induced enzymatic activity and aggregation. *C. Tejeda, R. Vargas, J. Lugo, X. Wen*

BIOL 162. A visual data mining framework of the genetic code: The DRAm form. *J. DeMassa*

BIOL 163. Microfluidic platforms and tunable surfaces for the creation of biomimetic droplet interface bilayers. *J. Korner, K. Elvira*

BIOL 164. Exponential fluorescent amplification of nucleic acids using clampFISH probes. *S.H. Rouhanifard, I. Mellis, M. Dunagin, S. Bayatpour, O. Symmons, A. Cote, A. Raj*

BIOL 165. Effects of vibrational and structural perturbations on hydride transfer reaction catalyzed by formate dehydrogenase. *C. Ranasinghe, P.L. Pagano, A. Kohen, C.M. Cheatum*

BIOL 166. Decoding the self-resistance mechanism of bacteria linked with colorectal cancer. *P. Tripathi, E. Shine, A.R. Healy, C. Kim, S. Herzon, J. Crawford, S. Bruner*

BIOL 167. The allosteric mechanisms driving the evolution of androgen specificity. *C.D. Okafor, J. Colucci, E. Ortlund*

BIOL 168. In vivo bioluminescent imaging of cancer cells by using a bio-orthogonal ligation reaction. *T. Alhammadov, S. Ozcubukcu, T. Bagci-Onder, S. Kilemen*

BIOL 169. Molecular mechanisms of collagen C-propeptide assembly. *R. Li, A.S. DiChiara, A.S. Hosseini, D.R. McCaslin, M. Shoulders*

BIOL 170. A novel biodegradable multifunctional nanoplateform synergistically overcome multidrug resistance. *S. Wang, L. Yang, Q. Zhang, K. Lee*

BIOL 171. Water-soluble coelenterazine analogs improved in vivo bioluminescence imaging. *H. Yeh, H. Ai*

BIOL 172. Imaging the proteome through the genetic incorporation of unnatural amino acids. *J. Wang*

BIOL 173. Functional interplay between an inward-rectifier potassium channel and the lipid bilayer. *B. Wylie, B. Collin, M. Canny, D. Versteeg, M. Yekfalal*

BIOL 174. Structure-function studies of ferrioxamine siderophores reveals charge-based preference for utilization by human pathogenic *Staphylococcus aureus*. *N.P. Endicott, E. Lee, T.A. Wenczewicz*

BIOL 175. Fast relaxation imaging (fRel) of live-cell RNA-protein binding affinity and kinetics. *C. Davis, I. Guzman, M. Gruebele*

BIOL 176. Investigation of the role of linker domain residues in the function of MshA from *Corynebacterium glutamicum*, a retaining GT-B glycosyltransferase. *W. Chen, P.A. Frantom, C. Petersen*

BIOL 177. Novel approach for exploring substrate binding and transport via TonB dependent transporters in live *Escherichia coli* cells using electron paramagnetic resonance spectroscopy. *T.D. Nilaweera, D.A. Nyenhuis, S.B. Nyenhuis, D.S. Cafiso*

BIOL 178. Evolving biomolecules through a human cell based continuous directed evolution platform. *S.J. Hendel, C. Berman, L. Papa, C.L. Moore, A. Weickhardt, P. Suen, M. Shoulders*

BIOL 179. Uncovering the quantum mechanical origins of methyltransferase function with large-scale electronic structure. *Z. Yang, H.J. Kulik*

BIOL 180. Binding of human serum albumin to various medications. *F. Manyanga, A. Calnan*

BIOL 181. Photo-triggered fluorescent labelling of recombinant proteins in living cells. *Y. Kwon*

BIOL 182. Asymmetric cobaltocenium derivatives for mediated electrochemical biocatalysis. *J. Najjar, C. McCully, A.K. Udit*

BIOL 183. Antibody-dependent cellular cytotoxicity. *A. Rullo*
BIOL 184. Discovery of 4CIN: A universal nucleoside analogue with highly efficient fluorescence properties. *K. Passow, D.A. Harki*

BIOL 185. The influence of a major groove amino acid on the mutagenic potential of 8-oxo-2'-deoxyguanosine with A-family polymerases. *M. Hamm*

BIOL 186. Effect of diagenesis on the Ca/P ratio within archaeological bone and teeth samples. *J.W. Ejniak, A. Fernandez, P. Killoran*

BIOL 187. Single quantum dot tracking and superresolution imaging of plasma membrane organization of the dopamine transporter. *O. Kovtun, I.D. Tomlinson, S.J. Rosenthal*

BIOL 188. Triazine-bridged cyclic peptides as molecular transporters: Applications in drug delivery. *H. Kim, H. Lim*

BIOL 189. Estrane derivatives induce endoplasmic reticulum stress leading to selective cytotoxicity in pancreatic cancer cells and to tumor regression in PANC-1 xenograft model. *D. Poirier, J. Roy, R. Maltais, M. Perreault*

BIOL 190. Interaction of fluorescent teixobactin analogues with bacteria. *M. Morris, M. Malek, M. Hashemian, J.S. Nowick*

BIOL 191. Regulation of RNA using novel transition metal complexes. *S.S. Jain, C.M. Anderson, H.T. Hoang, A. Freer, S. Lundgren*

BIOL 192. Self-assembly of DNA crystals with tunable spacing. *Y. Yang, S. Sun*

BIOL 193. Investigating the stability of boron-nitrogen heterocycles for the design of robust bioconjugation probes. *S. Ghosh, H. Gu, S.L. Bane*

BIOL 194. Structural characterization of two thiazoline-forming cyclization domains in yersiniabactin biosynthesis. *J. Soule, Y. Xia, B. Henriquez, A. Gnann, V. Dieu, M. MacRae, M. Patterson, D.P. Dowling*

BIOL 195. Dissection of the Med25-ATF6a protein-protein interaction using a lipopeptide natural product. *O. Pатели, M. Beyersdorf, A. Tripathi, T. Cierpicki, D.H. Sherman, A.K. Mapp*

BIOL 196. Investigation of on-resin reactions for cyclization efficiency to control monomer/dimer ratios for comprehensive macrocyclic peptide libraries. *R. Kandler, S. Das, A. Nag*

BIOL 197. Design and synthesis of multifunctional photoaffinity probes to map protein-protein interaction surface. *J. Lin, X. Bao, X.D. Li*

BIOL 198. Fluorogenic structure activity library pinpoints molecular variations in the substrate specificity of structurally homologous esterases. *R. Johnson, A. White, A. Koelper, A.F. Russell, E. Larsen, G.C. Hoops*

BIOL 199. In silico and in vitro studies on the activation and signaling mechanisms of CXCL12 binding to its cognate receptor CXCR4. *C. Chang, K. Primus Dass, S. Jiang, H. Hsu*

BIOL 200. Photochemistry-derived small molecules exhibit cell-line-specific toxicity in pancreatic cancer models. *S. Raghavan, B. Hua, S. Gill, R. Ng, W.C. Hahn, S.L. Schreiber*

BIOL 201. Tagged and remotely induced guided immune responses with a photo-caged NOD1 agonist. *A.C. Chon, A. Esser-Kahn*

BIOL 202. Developing peptide-based inhibitors that target histone post-translational modification mediated protein-protein interactions. *Y. Cui*

BIOL 203. Squaric esters as novel lysine specific electrophiles. *J. Ho, L.L. Kiessling*

BIOL 204. Growth-based phenotypic high throughput screening (HTS) platform to discover drugs that inhibits the proatherogenic trimethylamine (TMA) pathway in the human gut microbiome. *W.J. Sandoval Espinola, E. Balskus*

BIOL 205. Synthesis, characterization and anticancer activity of Au@Cu₂MoS₄ nanoparticles. *N.M. Penman, B. Benin, S. Huang*

BIOL 206. Therapeutic gene delivery approach to targeting constitutively active pathways in uveal melanoma. *O. Dorosheva, J. Zou, R. Liu*

BIOL 207. Ligand-specific synthetic surfaces for label-free enrichment of cell subpopulations. *S. Masuko, D. Mahbuba, A.G. Kruger, L.L. Kiessling*

BIOL 208. Modular polymeric antigens as antibiotic replacements. *C.M. Jarvis, M.K. Arendt, N. Bennett, M. Alam, M. Cook, L.L. Kiessling*

BIOL 209. Engineering firefly luciferase for improved brightness using modified substrates. *M. Ornelas*

BIOL 210. Identification of volatile organic compounds in breath of liver disease patients by EESI-MS. *R. Su*

BIOL 211. In silico analysis of protein PgPR-10 with metabolites. *Y. Moon, M. Choi, S. Shin*

BIOL 212. Screening of histamine specific binding peptide for inhibition of allergic reactions. *G. Lee, J. Yoon, Y. Kim, J. Min*

BIOL 213. Polymeric antigens targeting dendritic cells for immunity. *H.M. Seifert, C.M. Jarvis, L.L. Kiessling*

BIOL 214. Fluorogenic chemoselective biocompatible conjugation chemistries of acetylphenyl boronic acid for biological applications. *S. Cambrey, J. Gao*

BIOL 215. Nucleophilic probes to enrich the phosphoserine and phosphothreonine proteomes. *N. Abullarrage, R. Scheck*

BIOL 216. Metabolic network and mixed-carbohydrate utilization in *Pseudomonas protegens* Pf-5. *R.A. Wilkes, L. Aristilde*

BIOL 217. Small molecule modulator of 20S/26S proteasome dynamic equilibrium targets intrinsically disordered proteins. *E. Njomen, P.A. Osmulski, C.L. Jones, T.A. Lansdell, M.E. Gaczynska, J.P. Tepe*

BIOL 218. Evaluation of surface-modified macrophages toward imaging and drug-delivery. *B. Joshi*

BIOL 219. Small molecule activators of hedgehog protein autoprocessing that tilt reaction outcome toward parasitic hydrolysis. *C.J. Smith, L. Cruceta, A.G. Wagner, D.A. Ciulla, J. Zhao, C. Wang, B.P. Callahan*

BIOL 220. Don't sell them short: There's more to bacterial natural products than antibiotics. *A.C. Domzalski, A. Velasquez, R. Tavares de Almeida, A. Kawamura*

BIOL 221. Multiplexed high-throughput screening approach for identification of selective protein-protein interaction modulators. *J. Garlick, S.M. Sturlis, A.K. Mapp*

BIOL 222. An optimal peptide for annealing to damaged collagen. *J.M. Dones-Monroig, R.T. Raines*

BIOL 223. Mutagenesis of the putative catalytic serine of LipN hydrolase from *Mycobacterium ulcerans*. *E. Pool, G.C. Hoops, R. Johnson*

BIOL 224. Role of F235A residue in neuronal calcium sensor DREAM. *M. Santiago, J. Miksovska*

BIOL 225. NMR guided approach to evolution of Myoglobin protein. *J.H. Yoon, S. Bhattacharya, I.V. Korendovych, O.V. Makhlynets*

BIOL 226. Antibody conjugated ZAIS [(Zn Ag₂ In₂S₄)] Fluorescence Nanoparticles for target-specific cell imaging. *H. Seo, S. Seal, J. Park, S. Lee, Y. Kim, J. Jung*

BIOL 227. Microbial glycan recognition by human intelectin-1. *C. McMahon, C. Isabella, P. Kosma, L.L. Kiessling*

BIOL 228. Peptide purification using HILIC (hydrophilic interaction liquid chromatography). *J.E. Silver, R. Sorgo, A. Darter*

BIOL 229. Carvedilol increases nuclear localization of thioredoxin-interacting protein (TXNIP) in H9c2 cells. *M. Alharbi, J. Gunaje, R. Dachineni, T.M. Seefeldt*

BIOL 230. Study on the shape and stability of liposome under osmotic pressure and its application to detection of autophagosome. *M. Kim, W. Kim, S. Lee, J. Jung*

BIOL 231. Fish DNA barcoding in Connecticut. *J. Pang, A. Fawver*

BIOL 232. Using llama nanobodies to engineer new protein tools for proximity-directed changes in O-GlcNAcylation of a specific protein. *D.H. Ramirez, C. Aonbangkhen, J.A. Naftaly, C. Woo*

BIOL 233. Characterization of a cyanobacterial "Friedel-Crafts alkylation" enzyme. *N.R. Braffman, E.E. Schultz, E. Balskus*

BIOL 234. Human ribonuclease 1: Endogenous glycosylation, cellular internalization, and cytotoxic capability. *V. Ressler, H.R. Kilgore, W. Chyan, R.T. Raines*

BIOL 235. NMR-guided directed evolution of a Kemp eliminase. *S. Bhattacharya, O.V. Makhlynets, A. Volkov, I.V. Korendovych*

BIOL 236. Development of methods for the continuous directed evolution of biomolecules in human cells. *C. Berman, L. Papa, S.J. Hendel, C.L. Moore, P. Suen, M. Shoulders*

BIOL 237. Development of ³¹P NMR assay for the kinetic evaluation of recombinant choline kinase from *Leishmania infantum*. *J.A. Walker, S.J. Peters, M.A. Jones, J.A. Friesen*

BIOL 238. The effect of Li⁺ binding on secondary and tertiary structure, hydrophobicity, thermodynamics, and interactions with interacting partners of DREAM. *S. Azam, J. Miksovska*

BIOL 239. Targeting virulence factors: Discovery of small-molecule inhibitors of *Haemophilus influenzae* IgA1 protease. *L. Shehaj, S.K. Choudary, K.M. Makwana, J. Kritzer*

BIOL/BMGT/CARB

- BIOL 240.** A colorimetric method for the parallel quantification of choline and phosphocholine. *T. Zimmerman, S. Ibrahim*
- BIOL 241.** Roles of heparan sulfate in mesoderm differentiation of human embryonic stem cells. *Q. Li, S. Masuko, D. Mahbuba, L.L. Kiessling*
- BIOL 242.** Is *Leishmania major* pteridine reductase (PTR1) a functional monomer? *J. Gavenonis, M.G. Johnson*
- BIOL 243.** Mapping the interactions between substrate pF3 coat protein and YidC during its translocation. *H. He, R.E. Dalbey*
- BIOL 244.** Critical roles of heparan sulfate in neuronal differentiation of human embryonic stem cells. *D. Mahbuba, S. Masuko, Q. Li, Y. Zaltsman, L.L. Kiessling*
- BIOL 245.** Investigation of the catalytic mechanism for ghrelin acylation within ghrelin O-acyltransferase (GOAT). *T. Davis, M. Aiduk, J. Hougland*

WEDNESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 153B

Early Career Investigators in Biological Chemistry

- P. C. Bevilacqua, S. O. Kelley, *Organizers*
M. E. Farkas, *Presiding*
- 8:30** Introductory Remarks.
- 8:35 BIOL 246.** Single-molecule imaging reveals conformational manipulation of Holliday junction DNA by the junction processing protein RuvA. *D.R. Gibbs, S. Dhakal*
- 8:50 BIOL 247.** New insights into the ice-binding mechanism of antifreeze glycoproteins. *R. Drori, K. Meister, A. DeVries*
- 9:05 BIOL 248.** Synthetic biology is an emerging tool for bio/nano-materials. *U. Seker*
- 9:20 BIOL 249.** Understanding small molecule permeation of bacterial cells: From big data to simple rules? *A. Sarkar*
- 9:35 BIOL 250.** Chemical proteomic discovery of new agents that induce apoptotic cell death of lung tumor cells. *S. Campbell, C.E. Franks, A. Borne, M. Shin, L. Zhang, K. Hsu*
- 9:50** Intermission.
- 10:00 BIOL 251.** Hydralazine induces stress resistance and extends *C. elegans* lifespan by activating the NRF2/SKN-1 signalling pathway. *H. Mirzaei*

- 10:15 BIOL 252.** Revealing the amyloid formation mechanism of human beta2-microglobulin induced by transition metal ions. *C. Liang*
- 10:30 BIOL 253.** Development of modified DNA polymerases for accurate synthesis of nuclease resistant modified DNA. *A. Lecante*
- 10:45 BIOL 254.** Chemical modulation of circadian rhythms in models of breast cancer. *M.E. Farkas*
- 11:00 BIOL 255.** Bile acid conjugation as a tool for enhancing intracellular delivery of biofunctional linker-extended constructs. *R. Bhadoria, K. Ping, P. Starkov*
- 11:15 BIOL 256.** Assessing formation of parallel polyadenosine duplexes composed of two different strands. *M. Pickard, L. Cisco, K. Brylow, M. Pershun, E. Wagner, K. Halvorsen, M. Gleghorn*

SECTION B

Boston Convention & Exhibition Center
Room 153C

Mid-Career Investigators in Biological Chemistry

- P. C. Bevilacqua, S. O. Kelley, *Organizers*
E. E. Carlson, *Presiding*
- 9:00** Introductory Remarks.
- 9:05 BIOL 257.** Characterization of non-active site, TrkA selective kinase inhibitors and implications on obtaining kinase selectivity. *H. Su, K. Rickert, J. Sanders, D. Henze, A. Cooke*
- 9:30 BIOL 258.** Ferritin and neuroferritinopathy: Characterization of iron uptake and release. *F. Bou-Abdallah, M. Mehlenbacher, M. Poli, P. Arosio, P. Santambrogio, S. Levi, D. Chasteen*
- 9:55 BIOL 259.** Discovery of CAT-02-106: An MDR-1 resistant anti-CD22 antibody-drug conjugate (ADC) ligated site-specifically using SMARTag® technology. *J. Liu*
- 10:20** Intermission.
- 10:35 BIOL 260.** Ghrelin acylation by ghrelin O-acyltransferase: Exploring the biochemistry of a unique posttranslational modification. *J. Hougland, M. Campana, T. Davis, J. Moose, F.J. Irudayanathan, J.D. Chisholm, S. Nangia*
- 11:00 BIOL 261.** Intercepting bacterial signaling for antibiotic discovery. *E.E. Carlson*

- 11:25 BIOL 262.** Photochemical events in an electron transfer flavoprotein that supports nitrogen fixation. *H. Duan, N. Raseek, M. Tokmina-Lukaszewska, C. Lubner, R. Ledbetter, L.C. Seefeldt, P.W. King, B. Bothner, A. Miller*
- Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications**

Sponsored by ENVR, Cosponsored by BIOL
Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

WEDNESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 153B

Frontiers in Organofluorine Research for Biological Chemistry & Drug Discovery

- P. C. Bevilacqua, S. O. Kelley, *Organizers*
R. A. Altman, W. C. Pomerantz, *Organizers, Presiding*
- 1:30 BIOL 263.** Engineering new pathways for fluorinated natural products. *M. Chang, O. Ad, S. Sirirungruang*
- 2:00 BIOL 264.** Design, synthesis and evaluation of fluorovinyl triggers for pyridoxal phosphate dependent enzyme inactivation. *D.B. Berkowitz, M.L. Beio, C.D. McCune, J.M. Sturdivant, R.d. Salud-Bea, K.R. Karukurichi*
- 2:30 BIOL 265.** Inspiration from fluorination: Chemical biology approaches to probe molecular recognition events in transcription. *W.C. Pomerantz*
- 3:00 BIOL 266.** Perfluorocarbon-based nanotheranostics. *E.M. Sletten*
- 3:20** Intermission.
- 3:30 BIOL 267.** Local fluorine environment: Principle and applications in drug design. *A. Vulpetti, C. Dalvit*
- 4:00 BIOL 268.** Fluorinated peptidomimetics for improving drug-like characteristics of opioid peptides. *R.A. Altman*
- 4:30 BIOL 269.** Novel radiofluorination technology to facilitate PET imaging studies and drug discovery. *S.H. Liang*
- 4:50 BIOL 270.** Fluorination patterns and property modulation for drug discovery. *E.M. Carreira*
- 5:30** Concluding Remarks.

SECTION B

Boston Convention & Exhibition Center
Room 153C

Mid-Career Investigators in Biological Chemistry

- P. C. Bevilacqua, S. O. Kelley, *Organizers*
K. Dalby, *Presiding*
- 1:30** Introductory Remarks.
- 1:35 BIOL 271.** Industrial enzyme solutions. *G. Baier, Y. Lan, R. Andre, S. Kuebelbeck, F. Rung*
- 2:00 BIOL 272.** Nucleosome disassembly is heterogeneous and its kinetics is regulated by histone H3K56 acetylation. *J. Lee, T. Lee*
- 2:25 BIOL 273.** Differences in the heme pocket structure of the L. pectinata hemoglobins elucidated from fluoride binding studies: Understanding the roles of Hbl, Hbl1, and Hbl11. *J. Cerda, K.M. Frankenfield, K. Williams, D.M. Rivera, J. Lopez Garriga*
- 2:50** Intermission.
- 3:05 BIOL 274.** Biosynthesis of antibiotic natural products in *Lyso bacter*. *L. Du*
- 3:30 BIOL 275.** In vivo chemical probes of sphingosine kinase function. *W.L. Santos*
- 3:55 BIOL 276.** Elongation factor 2 kinase integrates multiple signals through regulated calmodulin sensitivity. *K. Dalby*

Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications

Sponsored by ENVR, Cosponsored by BIOL
Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

THURSDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 153B

Graduate Student & Postdoctoral Fellow Symposium

- P. C. Bevilacqua, S. O. Kelley, *Organizers*
A. Justen, *Presiding*

- 8:30 BIOL 277.** Heparan sulfate in self-renewal of human embryonic stem cells. *S. Masuko, Y. Zaltsman, A.C. Elton, Q. Li, P.J. Wrighton, L.L. Kiessling*
- 8:45 BIOL 278.** Novel genetically encoded yellow-red FRET biosensors for visualizing cAMP dynamics. *S.B. Javdan, M. Wu, B.L. Walton, A.E. Sgro*
- 9:00 BIOL 279.** Construction of genetic logic gates using transcriptional interference. *A. Escalas Borday, N.J. O'Connor, A. Chatterjee*
- 9:15 BIOL 280.** Expanding the synthetic utility of the Flavin-dependent monooxygenase TropB. *A. Rodriguez Benitez, S. Tweedy, S.B. Dockrey, T. Wymore, A.R. Narayan, J.L. Smith*
- 9:30 BIOL 281.** DOSEDO: Diversity-oriented synthesis encoded by DNA oligonucleotides. *C.J. Gerry, M.J. Wawer, P.A. Clemons, S.L. Schreiber*
- 9:45 BIOL 282.** Fluorous photosensitizers enhance photodynamic therapy with perfluorocarbon nanoemulsions. *R. Day, D. Estabrook, J. Logan, E. Sletten*
- 10:00 BIOL 283.** Probing proteomic zinc binding with Zincon. *A.A. Mahim, M. Namdarhanbari, D.H. Petering*
- 10:15** Intermission.

- 10:30 BIOL 284.** Chemical tools to decipher gut microbial communities: Detection and characterisation of putative glycol radical enzymes (GREs). *M.U. Luescher, Y.Y. Huang, E. Balskus*
- 10:45 BIOL 285.** Conformational dynamics affecting PCET during radical transfer in ribonucleotide reductase. *B.L. Greene, A. Taguchi, J. Stubbe, D. Nocera*
- 11:00 BIOL 286.** An integrated computational-experimental approach for designing photoswitchable protein assemblies. *E. Dolan, S. Mushnoori, M. Dutt, S. Khare*
- 11:15 BIOL 287.** Intra-articular injection of relaxin-2 alleviates shoulder arthrofibrosis. *W.A. Blessing, S.M. Okajima, J.C. Villa-Camacho, M. Cubria, M.W. Grinstaff, E.K. Rodriguez, A. Nazarian*
- 11:30 BIOL 288.** Truncation of a single mycobacterial polysaccharide alters cell shape and compromises fitness. *A. Justen, L.L. Kiessling*
- 11:45 BIOL 289.** Trapping a Schiff base intermediate in a key tricyclic ring formation step of Wye base biosynthesis. *T.A. Grell, A.P. Young, C.L. Drennan, V. Bandarian*
- 12:00 BIOL 290.** Necessity of terpene chain length on base pairing discrimination of nature's selection 5-geranyl-2-thiouridine. *P. Haruehanroengra, S.V. Ranganathan, J. Sheng*

SECTION B

Boston Convention & Exhibition Center
Room 153C

Graduate Student & Postdoctoral Fellow Symposium

- P. C. Bevilacqua, S. O. Kelley, *Organizers*
L. Papa, *Presiding*
- 8:30 BIOL 291.** Substrate requirements within a family of bacterial phosphothreonine lyases. *K. Chambers, R. Scheck*
- 8:45 BIOL 292.** Disubstituted luciferins as orthogonal bioluminescent probes. *S. Williams, C.M. Rathbun, W.B. Porterfield, Z. Yao, J.A. Prescher*
- 9:00 BIOL 293.** Probing the structures of Aβ oligomers with antibodies generated against triangular trimers derived from Aβ. *A.G. Kreutzer, S. Yoo, M.N. Diab, I.L. Hamza, J.S. Nowick*
- 9:15 BIOL 294.** Structure-activity relationships guided studies for OGa lesion recognition and repair by the base excision glycosylase MutY. *C. Majumdar, A. Manlove, P. McKibbin, M. Hamm, S.S. David*
- 9:30 BIOL 295.** Role of histidine and metal binding motifs in the antimicrobial peptide Gaduscidin 1. *J. Portelinha, K. Heilemann, A.M. Angeles Boza*
- 9:45 BIOL 296.** LOOPER fantastic more than four: Aptamers beyond canonical DNA bases. *D. Kong, W. Yeung, R. Hili*
- 10:00 BIOL 297.** Effects of small molecule circadian rhythm modulators on oncogenic phenotypes. *H. Lin, H. Bisbee, C. Labriola, S. Lellupityage Don, K. Robertson, M. Harrington, M.E. Farkas*
- 10:15** Intermission.
- 10:30 BIOL 298.** β,γ-CHX (X: CH₃, F, Cl, Br) dATP and dCTP diastereomers: Synthesis, discrete NMR signatures and substrate stereochemistry with DNA polymerase η and β. *P. Haratipour, C. Minard, M. Nakhjiri, A. Negahbani, B.A. Kashemirov, K.M. Oertell, M.F. Goodman, C.E. McKenna*
- 10:45 BIOL 299.** Highly potent antagonists of *Pseudomonas aeruginosa* quorum sensing receptor LasR from a non-native scaffold. *D. Manson, M.C. O'Reilly, H.E. Blackwell*
- 11:00 BIOL 300.** Immobilized FhuD2 siderophore-binding protein enables purification of salmicyin sideromycins from *Streptomyces violaceus* DSM 8286. *G.M. Rivera, C.R. Beamish, T.A. Wencewicz*

11:15 BIOL 301. Mechanistic basis for ATP-dependent inhibition of glutamine synthetase by Tabtoxinine- β -lactam. *L. Fang, G.J. Patrick, J.F. Schaefer, S. Singh, G.R. Bowman, T.A. Wencewicz*

11:30 BIOL 302. A common mechanism links physiological activities of microbial butyrate in the colon. *M. Fink, M.S. Verma, G. Salmon, N. Fornelos, T. Ohara, S. Ryu, H. Vlamakis, R. Xavier, T. Stappenbeck, G.M. Whitesides*

11:45 BIOL 303. Targeting mutations to specific genes in multiple organisms. *L.J. Papa, C.L. Moore, M. Shoulders*

12:00 BIOL 304. Site-selective generation of stable antibody-drug conjugates via cysteine bridging of native antibodies. *S.J. Walsh, S. Omarjee, M. Hyvönen, J. Carroll, D.R. Spring*

CRISPR

Sponsored by AGFD, Cosponsored by BIOL

Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications

Sponsored by ENVR, Cosponsored by BIOL

THURSDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 153B

Graduate Student & Postdoctoral Fellow Symposium

P. C. Bevilacqua, S. O. Kelley, *Organizers*

X. Li, *Presiding*

1:30 BIOL 305. Dispatching the ubiquitous radical SAM enzymes byproduct 5-deoxyribose. *Q. Li, G. Beaudoin, J. Folz, O. Fiehn, J. Goodsell, A. Angerhofer, S. Bruner, A. Hanson*

1:45 BIOL 306. Analysis of potassium (K⁺) efflux systems (Kef) as an antibiotic target in pathogenic bacteria.

C.A. Haslam, A.K. Chan, S.C. Gray, A. Khan, T. Claridge, A.E. Scott, S.J. Conway

2:00 BIOL 307. Uncovering features that control selective protein glycation. *N. Sjöblom, R. Scheck*

2:15 BIOL 308. Orthogonal site-directed RNA editing system utilizing structure-guided engineering of a protein-RNA interface. *L.R. Monteleone, M. Matthews, C. Palumbo, J. Thomas, Y. Zheng, Y. Chiang, A. Fisher, P.A. Beal*

2:30 BIOL 309. DNA conjugated catalyst for targeted ester hydrolysis exhibits enzymatic kinetics. *M.L. Flanagan, A. Arguello, D. Colman, J. Krejci, Y. Yao, Y. Zhang, D.J. Gorin*

2:45 BIOL 310. Synthesis and biological investigation of the narrow-spectrum antibacterial (-)-promysalin and analogs. *C. Keohane, A. Steele, W.M. Wuest*

3:00 BIOL 311. Bacterial signals regulate multicellularity and mating in animals' closest relative. *J.P. Gerdt, A. Woznica, N. King, J. Clardy*

3:15 BIOL 312. Dynamic characteristics of GMP reductase complexes revealed by high-resolution ³¹P field-cycling NMR relaxometry. *M. Rosenberg, A.G. Redfield, M.F. Roberts, L. Hedstrom*

3:30 Intermission.

3:45 BIOL 313. Expression of multimeric enzymes with tunable activity and its application in the study of mistranslation. *X. Li, Y. Jiang, S. Chong, D.R. Walt*

4:00 BIOL 314. Stimulus-responsive self-assembly of enzymatic fractals by computational design. *N. Hernandez, W. Hansen, D. Zhu, M. Shea, M. Khalid, V. Manichev, M. Putnins, M. Chen, A.G. Dodge, L. Yang, M. Banal, T. Gustafsson, L. Feldman, S. Lee, L.P. Wackett, W. Dai, S. Khare*

4:15 BIOL 315. Geobacter cytochrome OmcZs binds riboflavin: Implications for extracellular electron transfer. *M.A. Thirumurthy*

4:30 BIOL 316. Enzyme-polymer conjugates to enhance enzyme shelf life in a liquid detergent formulation. *S. Kübelbeck, J. Mikhael, H. Keller, R. Konradi, A. Andrieu-Brunsen, G. Baier*

4:45 BIOL 317. Understanding the long-term fate of nanoparticles using a novel 3D system *in vitro*. *A. Alahmari, K. Dawson, F. Muraca*

5:00 BIOL 318. Identifying and utilizing new antileishmanial drug targets. *R. Charlton, P.G. Steel, P. Denny, B. Rossi Bergmann*

BMGT

Division Of Business Development & Management

A. DeMasi, *Program Chair*

OTHER SYMPOSIA OF INTEREST:

Strengthening Your Patent Rights in Light of Recent Federal Circuit Court Decisions (*see CHAL, Sun*)

SOCIAL EVENTS:

Henry F Whalsh, Jr. Award to Thomas Lane, 4:00 PM: Mon

BUSINESS MEETINGS:

Semi-Annual Meeting, 4:00 PM: Mon

SUNDAY MORNING

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

SUNDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Summer 1

Chemical Angel Network: Chemists Investing in Chemical Companies

Cosponsored by PROF and SCHB⁺

Financially supported by CIEC

J. L. Bryant, M. Vreeke, *Organizers*

S. S. White, *Organizer, Presiding*

1:30 Introductory Remarks by S. White.

1:35 BMGT 1. Updates and news from the Chemical Angel Network (CaN) and its fifth year of supporting chemists and chemistry-based company creation. *M. Vreeke, S.S. White, J.C. Giordan*

2:00 Company Presentations.

3:00 Investment Discussion.

3:30 Open Forum.

4:00 Concluding Remarks.

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

MONDAY MORNING

Artificial Intelligence & its Impact on The Chemical Enterprise

Sponsored by YCC, Cosponsored by BMGT and PRES⁺

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

MONDAY AFTERNOON

Francis P. Garvan-John M. Olin Medal Symposium in Honor of Valerie Kuck

Sponsored by WCC, Cosponsored by BMGT and PROF

TUESDAY MORNING

Financial & Business Formation Strategies for Start-Ups & Chemical-Related Businesses

Sponsored by SCHB, Cosponsored by BMGT⁺ and PROF

WEDNESDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Summer 1

Advances in Quality Assurance & Regulatory Affairs: Impact on the Future of the Food & Drug & Agrochemical Industry

Cosponsored by AGRO⁺

Financially supported by SQA (the Society of Quality Assurance)

J. L. Bryant, *Organizer*

K. Daigle, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 BMGT 2. Building of a GLP laboratory through quality training in an academic course. *S. Tam, M. Nail*

2:00 BMGT 3. Benefits and value in developing a quality management plan. *K. Watson*

2:25 BMGT 4. Development of standard operating procedures (SOPs) and an effective SOP management system: Practical tools of GLP. *L. Sanghani*

2:50 Intermission.

3:05 BMGT 5. Practical methods for personnel training and development. *K. Daigle*

3:30 BMGT 6. Diagnostic of personnel errors in good laboratory practice (GLP) for implementation of effective preventive action. *L. Sanghani*

3:55 BMGT 7. Role of management in the oversight of laboratories conducting regulated studies. *M. Coyle-Rees, C. Lee*

4:20 Discussion.

4:50 Concluding Remarks.

CARB

Division of Carbohydrate Chemistry

S. Sucheck, *Program Chair*

SUNDAY MORNING

SECTION A

Aloft Boston Seaport
Summer 2

Excellence in Undergraduate Research in Glycoscience

Cosponsored by CELL

C. L. Grimes, N. L. Snyder, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 CARB 1. Microwave-assisted organic synthesis (MAOS) of diamides for antimicrobial structure-activity study in Gram-positive pathogens. *L. Rochefort, B.A. Haubrich, M. Saladino, A. Basu, C. Reid*

8:25 CARB 2. Synthesis and characterization of polyprenyl-polysaccharide conjugates via [4+2] cycloaddition intermediates. *B.J. Orzolek, P.M. Iovine*

8:45 CARB 3. Total synthesis of muramyl dipeptide dimers. *T. Harmon, K. Lazor*

9:05 Panel Discussion.

9:25 CARB 4. New tools for studying carbohydrate-protein binding interactions. *N. Fendler, N.L. Snyder*

9:45 CARB 5. Synthesis and characterization of starch-dibromomaleimide conjugates for delivery applications. *T. Luu, J. Tran, N. Lorentz, P.M. Iovine, J.G. Schellinger*

10:05 CARB 6. Development of novel binding reagent for the detection of N-linked glycan disease biomarkers by computational and experimental methods. *N. Murphy, R.J. Woods*

10:25 CARB 7. Evaluation of sugar coordination to binuclear copper(II) complexes. *M. Whaley, S. Striegler*

10:45 Panel Discussion.

11:05 CARB 8. Characterization of the novel monoclonal antibody, Kt-IgM-8. *G.T. Hymel, P.R. Andreana, K.A. Kleski, K.R. Trabbic*

11:25 CARB 9. Targeting ppGalNAcT3 to block migration and invasiveness of cancer cells. *S. Dutta*

11:45 CARB 10. Analysis of epidermal growth factor receptor glycosylation by advanced mass spectrometric methods. *V.L. Stahl, K.B. Chandler, D.R. Leon, M.A. Kukuruzinska, C.E. Costello*

12:05 Concluding Remarks.

CARB

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Synergistic Approaches to Lignocellulosic Biomass Research

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

SUNDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Summer 2

Structures & Functions of Glycans

Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN
C. E. Costello, *Organizer*

I. Compagnon, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CARB 11. Chemical synthesis and isotope labeling to characterize the stereochemistry and complexity of product ions derived from mono- and disaccharides. **B. Bendiak**

2:10 CARB 12. Systems biology approaches for O-linked glycosylation using LC-MS/MS and microarray technologies. **S. Dutta, J. Heimbürg-Molinario, A. Mehta, C. Gao, R. Cummings**

2:45 CARB 13. Human milk oligosaccharides: 1000 structures for the first 1000 days. **B. Stahl**

3:20 Intermission.

3:35 CARB 14. Carbohydrate sequencing by electronic excitation dissociation. **C. Lin, Y. Tang, J. Wei, P. Hong, C.E. Costello**

4:10 CARB 15. Hydrogen/deuterium exchange – mass spectrometry of rapidly exchanging functional groups: Towards analysis of solvated glycan structures. **E.S. Gallagher, O.T. Liyanage, H.J. Kim**

4:45 CARB 16. Glycan fingerprinting using cold-ion infrared spectroscopy. **E. Mucha, M. Marianski, W. Struwe, P.H. Seeburger, G. von Helden, K. Pagel**

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Synergistic Approaches to Lignocellulosic Biomass Research

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

SUNDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

General Posters

Cosponsored by CELL
S. J. Suchek, *Organizer*

8:00 – 10:00

CARB 17. Revealing the molecular mechanisms of human 6-O-endosulfatase specificity. **B. Timm, M.L. Huang, S. Verespy, K. Godula**

CARB 18. Interrupted Pummerer reaction mediated glycosylations: Total synthesis of resin glycoside mucrocoidins. **J. Fang, J. Sun, S. Zhang, P. Shu, X. Xiao, P. Wu, G. Nie, L. Meng, J. Zeng, Q. Wan**

CARB 19. Wound healing effects of β -glucan. **M. Cho, G. Seo, Y. Kim, S. Choi, S. Park**

CARB 20. Guar gum-poly (vinyl acetate) graft copolymers as a potential environmentally friendly warp-sizing agent. **J. Xu, Q. Wang, X. Fan**

CARB 21. β -Selective D-psicofuranosylation of alcohols, pyrimidine bases, and thiols. **A. Ueda, Y. Makura, Y. Nishimura, M. Tanaka, J. Uenishi**

CARB 22. Chemo-enzymatic synthetic method of sequence-regulated keratan sulfate oligosaccharides catalyzed by keratanase II. **Y. Yamazaki, S. Kimura, M. Ohmae**

CARB 23. Designing galactonoamides as inhibitors of α -galactosidases. **I. Orizu, S. Striegler**

CARB 24. Glycoside cleavage via crosslinked microgel catalysts. **B. Sharma, S. Striegler**

CARB 25. Assessing fucosyltransferase activity via MSn. **D.J. Ashline, V.N. Reinhold**

CARB 26. Synthesis of HBA glyco-conjugates for capturing human noroviruses. **A. Dhawane, B. Gurale, H. Dinh, S.S. Iyer**

CARB 27. Microgram scale synthesis of Glycopeptide Libraries: Use as standards and in screening. **A.Y. Mehta, S. Dutta, M.S. Hanes, R.H. Veeraiha, C. Gao, Y. Matsumoto, N.L. Pohl, M. Boyce, R. Cummings**

CARB 28. Injectable DNA supramolecular hydrogel vaccine system for immunotherapy. **Y. Li**

CARB 29. Free energy calculation of the solubility of cellulose oligomers in water: II. **K. Ueda, Y. Matsubara**

CARB 30. Selective hydrogenation of lactose to lactitol over Ru nanoparticles embedded on NiO modified TiO₂ used as support material. **J. Hwang, J. Jegal**

CARB 31. Mesoporous sulfated titania as an efficient catalyst for selective dehydration of sorbitol to isosorbide. **J. Hwang, J. Jegal, A. Dabbawala**

CARB 32. Tools to probe the SAR in cADPR: conformational analysis of cADPR and cDPR analogs and a potential photoaffinity label. **I. Serrano, W. Lyu, T.J. Perez, S.M. Graham**

CARB 33. Phenanthroline catalyzed highly diastereoselective glycosylation. **F. Yu**

CARB 34. Complex carbohydrate synthesis at a PUI in Central Minnesota. **A. Pirinelli, D. Schultz, A. Haley, R. Ulrich, S. Benz, S. Scherbring**

CARB 35. One strep at a time: Chemogenomic screening of antimicrobial diamides in *Streptococcus pneumoniae*. **S. Nayyab, B.A. Haubrich, M. Saladino, J. Belval, S.B. Symington, A. Basu, C. Reid**

CARB 36. Chemoenzymatic synthesis of O-mannose glycans. **S. Wang, Q. Zhang, L. Li, P.G. Wang**

CARB 37. Understanding the biological role of parasitic N-glycans using microarrays. **B. Eckmair, F. Martini, K. Paschinger, I. Wilson**

CARB 38. Synthesis of fluorinated glucopyranose derivatives from levoglucosan. **J. St-Gelais, D. Lainé, D. Giguère**

CARB 39. En route to carbohydrate-based antitumoral and antitumor vaccines. **T. Tremblay, V. Denavit, D. Giguère**

CARB 40. Synthesis of fluorinated carbohydrates: Preparation of mono- and polyfluorogalactopyranoside analogs. **D. Laine, V. Denavit, D. Giguère**

CARB 41. Conjugation of carbohydrates to proteins using di(triethylene glycol monomethyl ether) squaric acid ester revisited. **P. Xu, M.N. Trinh, P. Kovac**

CARB 42. XBP1s activation globally remodels N-glycan distribution. **K. Chen, M. Wang, M. Shoulders**

CARB 43. Biomarker-based metabolic labeling for redirected and enhanced immune response. **S. Li, B. Yu, P.G. Wang, B. Wang**

CARB 44. Extending the use of silyl protecting groups in carbohydrate chemistry. **S. Kamburugamuwe, M. Brichacek**

CARB 45. Synthesis of novel benzylidene derivatives and evaluation of ring opening properties. **S. Rambaran, N.K. Jalsa**

CARB 46. Exploration of triazolyl-1,2-cyclohexane-hydroxy-dicarboxylic acids and triazolyl-cyclohexanols as potential regulators for glycosidases. **M.R. Ruyonga, B. Nguyen, M. Huey, N.M. Samoshina, V.V. Samoshin**

CARB 47. Synthetic N-acetyl sialic acid-based chemical biology probes for exploring the biology of O-acetyl sialic acids. **W. Li, A. Xiao, Y. Li, H. Yu, X. Chen**

CARB 48. Importance of aromatic residues in protein-carbohydrate interactions. **R. Diehl, K.L. Hudson, G. Bartlett, D.N. Woolfson, L.L. Kiessling**

CARB 49. Evaluation of Kinetic behaviors of O-GlcNAK toward human OGA and its bacterial homolog BtGH84. **E.J. Kim, J. Hanover, M.R. Bond, D. Kang, J. Lee**

CARB 50. Stereoselective synthesis of the branched trisaccharide fragment of the antibiotic saccharomicin. **B. S.E. Soliman, C. Bennett**

CARB 51. Tailoring leaving group ability to glycan reactivity for stereospecific glycosylation reactions. **M. Zhuo, C. Bennett**

CARB 52. Progress on the total synthesis of saccharomicin. **B. M. Bylsma, C. Bennett**

CARB 53. Developing immunotherapies for pancreatic cancers. **K.R. Trabbic, K. Whalen, K. Abarca Heidemann, L. Xia, J. Gildersleeve, J.J. Barchi**

CARB 54. Improved approach to the direct construction of 2-deoxy- β -linked sugars: Applications toward oligosaccharide synthesis. **D.L. Lloyd, C. Bennett**

CARB 55. Direct stereoselective synthesis of the tetrasaccharide fragment corresponding to saccharomicin. **B. M. Jana**

CARB 56. Effort toward assembly of chondroitin sulfate A bearing syndecan-1 glycopeptide. **S. Ramadan, W. Yang, Z. Zhang, X. Huang**

CARB 57. New methods for directed evolution of glycoconjugates targeting broadly-neutralizing HIV antibodies. **R. Redman, J. Temme, I.S. MacPherson, I.J. Krauss**

CARB 58. Naturally derived glycan array from CHO cells to study influenza viral infection. **S. Chauhan, L. Parsons, S. Yang, E. Jankowska, C. Kohnhorst, C. Agarabi, J.F. Cipollo**

CARB 59. Elicitation Of antibody responses in rabbits by immunization with glycopeptide conjugates that mimic an epitope of bnAb 2G12. **D.N. Nguyen, B. Xu, C. Armstrong, I.J. Krauss**

CARB 60. Synthesis of C-3 carbohydrate *exo*-cyclic enones via condensation of dihydrolevoglucosone with adamantyl aldehyde. **C. Oldt, Z.J. Witzcak, R. Bielski, D.E. Mencer**

CARB 61. New developments in picoloylated sialyl donors. **A. Behm, M. Shadrick, C. De Meo**

CARB 62. Preparation of deoxy-sugars through a gold-catalyzed Petasis-Ferrier-like reaction. **W.M. Miller, C. Bennett**

CARB 63. Synthesis of C-3-carbohydrate *exo*-cyclic enones with chromone moiety. **Z.J. Witzcak, R. Bielski, D.E. Mencer**

CARB 64. Increasing the immunogenicity of the TF carbohydrate antigen utilizing the bivalent Tn/TF-PS A1 entirely carbohydrate vaccine construct. **K.A. Kleski, K.R. Trabbic, M. Shi, J. Bourgault, P.R. Andreato**

CARB 65. *In vitro* selection of glycopeptides that bind to broadly neutralizing HIV antibodies using mRNA display for vaccine design. **S. Horiya, J.K. Bailey, J. Temme, I.J. Krauss**

CARB 66. Synthesis of modified pseudouridines, as novel nucleoside-analog inhibitors of bacterial RNA polymerase. **I. Sappy**

CARB 67. Studies toward the synthesis of novel anasacrolides. **V.R. Sammeta, Z. Murphy, S. Rasapalli, R. Alshehry**

CARB 68. Promoter controlled glycosylation of 2-deoxy sugars: Synthesis of the saquayamycin-Z pentasaccharide. **C. Mizia**

CARB 69. The MG System, a new enzymatic tool in bioconjugate chemistry. **G. Cutolo, F. Reise, R. Nehme, P. Lafite, P. Renard, M. Schuler, T.K. Lindhorst, A. Tatibouët**

CARB 70. Characterization of N-glycan moieties in plasma IgY from *Dumetella carolinensis* via mass spectrometry. **J. Ebeid, R. Smith, M. Hatch, D.J. Ashline, V.N. Reinhold, K.A. Stumpo**

CARB 71. Preparation and application of an environmentally friendly starch-based adsorbent in the removal of Hg (II) from aqueous solution. **J. Li, L. Pu, W. Xiao, H. Long**

CARB 72. Synthesis and development of bacteria cell wall fragment microarray and its application. **J. Zhou, K. Lazor, C.L. Grimes**

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

MONDAY MORNING

SECTION A

Aloft Boston Seaport
Summer 2

Structures & Functions of Glycans

Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN
I. Compagnon, *Organizer*

C. E. Costello, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 CARB 73. HIV glycosylation. **L. Cao, J.K. Diedrich, M. Pauthner, R. Andrabi, K. Rantala, Z. Berndsen, D. Kulp, S. Menis, L. He, R. Park, D. Sok, C.Y. Su, C. Delahunty, A.B. Ward, W.R. Schief, D. Burton, J.R. Yates, J.C. Paulson**

8:40 CARB 74. Glycosylation impacts antibody Fc receptor function and is tuned by the immune system. **N. Mehta, K.B. Chandler, C.E. Costello, G. Alter**

9:15 CARB 75. N-Glycans's role in antibody allosteric signal transduction. **J. Zhao, R. Nussinov, B. Ma**

9:30 CARB 76. Mapping and manipulating O-GlcNAc during T cell activation. **C. Woo**

10:05 Intermission.

10:20 CARB 77. Elucidation of host interactions of biofilm component poly-N-acetylglucosamine from *Staphylococcus aureus* and *Acetivibacter baumannii* using glycomics microarrays. **M. Kilcoyne**

10:55 CARB 78. Conformational modelling of fungal mannan polysaccharide antigens: Implications for the rational design of anti-fungal vaccines. **M. Kuttel**

11:10 CARB 79. Straightforward synthesis and multiplexed screening of N-glycan polymers with micropillar/microwell chip platform. *J. White, P. Bigdelou, J. Tang, K. Yu, K. Chan, D. Wang, M. Lee, X. Sun*

11:25 CARB 80. Surface immobilized polymeric glycomaterials for the attenuation of growth factor signaling and proliferation in human mesenchymal stem cells. *G.W. Trieger, K. Godula*

Rational Design of Multifunctional Renewable-Resourced Materials

CNC/CNF Nanocellulose Composites

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY
Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

MONDAY AFTERNOON

SECTION A

*Aloft Boston Seaport
Summer 2*

Structures & Functions of Glycans

Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN
I. Compagnon, C. E. Costello, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CARB 81. Fragment-based approaches for the determination of stereochemistry glycoconjugates using hyphenated IM-MS. *S. Flitsch*

2:10 CARB 82. Towards understanding the mechanism of the fucose migration in small oligosaccharides using first-principles methods. *M. Marianski, E. Mucha, M. Lettow, D. Thomas, G. von Helden, P.H. Seeberger, K. Pagel*

2:25 CARB 83. Toward computational glycobiology. *W. Im*

2:40 CARB 84. Conformational analysis on five membered ring by nuclear magnetic resonance spectroscopy. Relationships between constant couplings, chemical shift and dihedral angles. *C. Mitan, R.M. Moriarty, P. Filip, E. Bartha, C. Draghici, M. Capriou*

2:55 Intermission.

3:15 CARB 85. Simple MSⁿ sequence in tandem mass spectrometry for de novo structural determination of glucose-galactose-mannose-oligosaccharides. *C.K. Ni*

3:30 CARB 86. Elucidating native sialylated N-glycans isomers by electrospray ionization tandem mass spectrometry. *C. Liew*

3:45 CARB 87. Plant polysaccharides: Insights on structure-property-function correlations using mass spectrometric approaches. *F. Vilaplana*

4:20 CARB 88. Chemical biology of plant cell wall glycans. *M. Clausen*

4:35 CARB 89. Single-molecule characterization of protein adsorption to multivalent glucan polymers like cellulose. *S. Chundawat, B. Nemmaru, M. Hilton, M. Hackl, C. Lopez, S. Gnanakaran, M. Lang*

Rational Design of Multifunctional Renewable-Resourced Materials

Synthesis of Renewable Materials
Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

Tetrahedron Prize

Sponsored by ORGN, Cosponsored by BIOL, CARB and MEDI

MONDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Sci-Mix

S. J. Sucheck, *Organizer*

8:00 – 10:00

17, 24, 26-28, 33, 36, 39, 41-42, 45, 47, 49, 52-53, 56, 64-66, 72. See previous listings.

TUESDAY MORNING

SECTION A

*Aloft Boston Seaport
Summer 2*

Enzymes in Glycoscience

Cosponsored by CELL
G. Boons, *Organizer*
L. Wang, *Organizer, Presiding*
9:00 Introductory Remarks.

9:05 CARB 90. Glycan complexity and biological recognition. *G. Boons*

9:35 CARB 91. Bacterial enzymes for one-pot multienzyme (OPME) chemoenzymatic synthesis of carbohydrates. *X. Chen*

10:05 CARB 92. Synthesis and characterization of a protein-polymer surfactant nanoconjugate of Cel7A from *Trichoderma reesei*. *J.N. Pedersen, B. Pérez, Z. Guo*

10:25 Intermission.

10:45 CARB 93. Structural basis for mammalian glycoenzyme substrate specificity. *K. Moremen, R. Kadirvelraj, J. Yang, B. Boruah, J. Sanders, L. Liu, Y. Xiang, K. Karavag, A. Ramiah, P. Prabhakar, G. Boons, Z. Wood*

11:15 CARB 94. FtsW is a peptidoglycan polymerase. *S. Walker*

11:45 CARB 95. Engineering a multifunctional family 5 glycosyl hydrolase into a transglycosidase. *C. Bandi, A. Goncalves, S. Chundawat*

SECTION B

*Aloft Boston Seaport
Summer 1*

Glycoprotein & Carbohydrate-Based Drugs for Human Health

Cosponsored by CELL
R. Cummings, *Organizer*
V. Reinhold, *Organizer, Presiding*
9:00 Introductory Remarks.

9:05 CARB 96. Glycoprotein and carbohydrate-based drugs for human health. *R. Cummings*

9:35 CARB 97. Synthesis of pseudaminic acid glycosides for potential applications in the treatment of bacterial infections. *B. Dhakal, D. Crich*

10:05 CARB 98. O-specific polysaccharide of *Vibrio cholerae* O139: Improved synthesis and conjugation to BSA by squaric acid chemistry. *H.B. Pfister, X. Lu, S.E. Soliman, P. Kováč*

10:35 Intermission.

10:50 CARB 99. Physicochemical characterization of a *Shigella flexneri* serotype 2a bioconjugate vaccine candidate. *N. Ravenscroft, M. Braun, J. Schneider, A. Dreyer, S. Kemmler, M. Steffen, D. Sirena, M. Wacker, M. Kowarik*

11:20 CARB 100. Synthesis and *in vivo* evaluation of fluorine-18 labeled streptozotocin derivative as a pancreatic beta-cell imaging probe. *K. Arimitsu, H. Kimura, Y. Yagi, K. Koshino, M. Hirano, T. Higuchi, H. Yasui*

11:50 CARB 101. Post glycosylation diversification (PGD), a new approach to the synthesis of glycosylated small molecule compound libraries, and its application towards novel bioactive compounds containing amino sugars. *Z. Cannone, C. Lorenz, A. Shaqra, S. Keshpeddy, V. Robinson, D. Wright, M.W. Peczu*

Rational Design of Multifunctional Renewable-Resourced Materials

Nanoparticle Structures & Properties
Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

TUESDAY AFTERNOON

SECTION A

*Aloft Boston Seaport
Summer 2*

Enzymes in Glycoscience

Cosponsored by CELL
L. Wang, *Organizer*
G. Boons, *Organizer, Presiding*

2:00 CARB 102. Chemoenzymatic synthesis of homogeneous glycoproteins. *L. Wang*

2:30 CARB 103. Macrocyclic peptide inhibitors of carbohydrate-active enzymes. *S. Jongkees*

3:00 CARB 104. Enzymatic synthesis of glycoproteins and protein glycan interactions. *T.J. Tolbert*

3:20 Intermission.

3:40 CARB 105. Discovery of CAZymes for cell surface glycan removal through metagenomics: Towards universal blood. *S.G. Withers*

4:10 CARB 106. Chemoenzymatic synthesis of peptidoglycan building blocks for cell wall remodeling. *C.L. Grimes*

4:40 CARB 107. Study of galactonoamidines as transition state analogs of glycosidases. *J.B. Pickens, S. Striegler*

5:00 CARB 108. Glycosyltransferase bump-hole engineering to dissect mucin-type O-glycosylation in the living cell. *B. Schumann, M. Debets, S.P. Wisnovsky, A.J. Agbay, L.J. Wagner, J. Choi, M.A. Gray, C.R. Bertozzi*

5:20 Concluding Remarks.

SECTION B

*Aloft Boston Seaport
Summer 1*

Glycoprotein & Carbohydrate-Based Drugs for Human Health

Cosponsored by CELL
V. Reinhold, *Organizer*
R. Cummings, *Organizer, Presiding*
2:00 Introductory Remarks.

2:05 CARB 109. Well-defined heparan sulfate mimicking glycopolymers as inhibitors of heparanase for cancer therapeutics. *H.M. Nguyen*

2:05 CARB 110. Chiral gold nanoparticle glycoconjugate synthesis and their anticancer and antibacterial applications relying on carbohydrate-lectin interactions. *I. Yazgan, A. Ugurlu, T. Ceter, A. Akgul*

2:35 CARB 111. Use of bioorthogonal N-acetylcysteamine (SNAc) analogues and peptidoglycan O-acetyltransferase B (PatB) to label bacterial peptidoglycan. *K. Lazor, Y. Wang, K. DeMeester, H. Liang, T. Heiss, C.L. Grimes*

3:05 Intermission.

3:20 CARB 112. Short carbohydrate amphiphiles as smart therapeutics targeting cancer. *A.M. Brito, D. Soares da Costa, A.F. Carvalho, R. Reis, R. Ulijn, R. Pires, I. Pashkuleva*

3:50 CARB 113. Co-assembly of peptide and carbohydrate amphiphiles to generate proteoglycan mimics. *A. Brito, Y. Abul-Hajja, D. Soares da Costa, R. Nova-Carballal, R. Reis, R. Ulijn, R. Pires, I. Pashkuleva*

4:20 CARB 114. Comprehensive glycan sequencing with documented results. *V. Reinhold*

Rational Design of Multifunctional Renewable-Resourced Materials

New Applications
Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

WEDNESDAY MORNING

SECTION A

*Aloft Boston Seaport
Summer 2*

New Directions in Carbohydrate Synthesis

Cosponsored by CELL
C. Bennett, *Organizer, Presiding*

9:00 CARB 115. Establishing glycosylation structure-reactivity-stereoselectivity relationships. *J. Codee*

9:30 CARB 116. Synthesis of oligosaccharide components of the outer core domain of *P. aeruginosa* lipopolysaccharide using a multifunctional hydroquinone-derived reducing-end capping group. *A. Vartak, S.J. Sucheck, F.M. Hefny*

9:55 CARB 117. β -Mannosylation via cesium carbonate-mediated anomeric O-alkylation: Mechanistic studies and synthetic applications. *J. Zhu*

10:25 Intermission.

10:40 CARB 118. Synthesis of the *Bacteroides fragilis* ATCC 25285/NCTC 9343 capsular zwitterionic polysaccharide PS A1 repeating units of oligomeric length and their importance. *P. Eradi, S. Ghosh, P.R. Andreana*

11:05 CARB 119. Visible-light activated high diastereoselective glycosylation. *F. Yu, H.M. Nguyen*

11:30 CARB 120. O-Glycosylation using a versatile remote activation strategy. *J.R. Ragains*

SECTION B

*Aloft Boston Seaport
Summer 1*

Glycoprotein & Carbohydrate-Based Drugs for Human Health

R. Cummings, *Organizer*
V. Reinhold, *Organizer, Presiding*
9:00 Introductory Remarks.

9:05 CARB 121. Glycoalkyl remodeling with sialylated-glycomaterials to probe the role of glycan presentation on influenza A host recognition. *C.J. Fisher, M. Cohen, M.L. Huang, P. Gagneux, K. Godula*

9:35 CARB 122. Facile glycopeptide synthesis using glycoamino acid with O-Boc protection. *T. Tanaka, A. Matsuda, M. Mizuno*

10:05 CARB 123. Glycopeptide positive control for acid hydrolysis of glycoproteins to determine monosaccharide content. *S. Patil, J. Rohrer*

10:35 Intermission.

10:55 CARB 124. Glucuronic acid stabilizing short peptides into helix. *C. Wu, H.N. Hoang, L. Liu, D.P. Fairlie*

CARB/CATL

11:25 CARB 125. HPAE-PAD analysis of complex carbohydrates using dual eluent generation cartridge. *B. Huang, Y. Chen, J. Hu, J. Rohrer*

11:55 CARB 126. Synthesis, conformation and potential applications of a range of glycosyl phosphoramidates. *A. Subratti, N.K. Jalsa*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

Solid-Phase Chemoenzymatic Methods for Analysis of Sialylated Glycans & their Intact Glycopeptides

Sponsored by ANYL, Cosponsored by CARB

WEDNESDAY AFTERNOON

SECTION A

*Aloft Boston Seaport
Summer 2*

New Directions in Carbohydrate Synthesis

Cosponsored by CELL
C. Bennett, Organizer, Presiding

2:00 CARB 127. Catalytic stereoselective synthesis of glycosides. *M.G. Galan*

2:30 CARB 128. Continuous flow synthesis of glycosylated cysteine monomers and S-glycosylated antimicrobial peptides. *A.J. Mijalis, R.H. Veeraiyah, B.L. Pentelute, N.L. Pohl*

2:55 CARB 129. Synthesis of polyfluorinated hexopyranoses. *D. Laine, D. Giguère, V. Denavit*

3:20 Intermission.

3:35 CARB 130. Employing cell-surface glyco-engineering to elucidate the role of matriglycan from α -dystroglycan. *C. Capicciotti, M. Sheikh, L. Wells, G. Boons*

4:00 CARB 131. Selective catalytic methods for the synthesis of oligosaccharides and glycoconjugates. *M. Walczak*

4:30 CARB 132. Stereospecific and site-selective glycosylation reactions catalyzed by Bis-Thioureas. *E.N. Jacobsen*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

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Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

THURSDAY MORNING

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

CATL

Division of Catalysis Science and Technology

F. Tao and K. Ramasamy, Program Chairs

SOCIAL EVENTS:
CATL Social Hour, 6:00 PM: Mon

BUSINESS MEETINGS:
CATL Executive Board Meeting, 5:00 PM: Mon

SUNDAY MORNING

SECTION A

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G*

Role of Water & Solvent in Heterogeneous Catalysis

K. A. Stoerzinger, Organizer
L. Arnadottir, Z. Feng, Organizers, Presiding

8:00 CATL 1. Influencing reaction pathways by chemical and steric environment in liquid phase acid catalysis. *Y. Liu, J.A. Lercher*

8:30 CATL 2. Elucidating the oxygen reduction volcano in alkaline and acidic electrolytes. *M. Escudero-Escribano*

8:50 CATL 3. The role of dopant concentration and electrolyte pH on the performance of LaFeCo_{0.9}O₃ catalysts for oxygen reduction/evolution reaction. *Z. Feng, M. Wang*

9:10 CATL 4. How fast are the proton and electron transfers on RuO₂? A Ru-OH deprotonation study. *D. Kuo, H. Paik, D. Schlom, J. Suntivich*

9:30 Intermission.

9:50 CATL 5. Structure and dynamics of liquid water on anatase TiO₂(101). *M.C. Andrade, H. Ko, R. Car, A. Selloni*

10:20 CATL 6. Molecular-level insights into the role of water on the chemistry of sugar alcohol decompositions revealed by multiscale modeling. *C.J. Bodenschatz, X. Zhang, T. Xie, R.B. Getman*

10:50 CATL 7. QuickEXAFS study of Pd leaching from solid catalysts in liquid environment. *M. Newton, D. Ferri, M. Hii*

11:10 CATL 8. Palladium-catalyzed reductive solvolysis of aryl ethers. *M. Wang, O.Y. Gutiérrez, D.M. Camaioni, J.A. Lercher*

SECTION B

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H*

Understanding Catalytic Sites on Amorphous & Disordered Materials

B. R. Goldsmith, A. Kulkarni, Organizers, Presiding
8:00 CATL 9. Elucidating the multi-functionality of Ag-ZrO₂/SiO₂ catalysts in the single-step thermal conversion of ethanol to butadiene. *S.A. Akhade, V. Lebarbier Dagle, R. Dagle, A.B. Padmaperuma, V. Glezakou, R. Rousseau*

8:40 CATL 10. Simple characterization of solid acid catalysts by reactive gas chromatography. *O.A. Abdelrahman, P.J. Dauenhauer*

9:10 Intermission.

9:25 CATL 11. Highly tunable platform for biomimetic catalysts from nanocrystal-amorphous polymer composites. *M. Cargnello, A.R. Riscoe, C. Wrasmann, A. Aitbekova, E.D. Goodman, A. Herzing, S. Bare*

10:05 CATL 12. Tuning the molecular design of tertiary amine catalysts on amorphous mesoporous silica supports for glucose isomerization. *N.A. Brunelli, N. Deshpande, T. Kobayashi, C. Yang, E. Cho, M. Whitaker, L. Lin, M. Pruski*

10:45 CATL 13. Spatial relationships between "isolated" active sites in catalysts built on amorphous silica surfaces. *S.L. Scott*

SECTION C

*Renaissance Boston Waterfront
Atlantic Ballroom 1*

Catalytic Insights from In-Situ/Operando X-ray & Neutron Techniques X-ray Catalysis

M. Tada, Organizer
F. Tao, Z. Wu, Organizers, Presiding

M. Cargnello, Presiding

8:00 Introductory Remarks.

8:05 CATL 14. In-situ catalyst characterization at Stanford synchrotron radiation lightsource (SSRL): What's new? *S.R. Bare, A.S. Hoffman, A. Boubnov*

8:40 CATL 15. Identifying dynamic structural changes of active sites in Pt-Ni bimetallic catalyst using multimodal approaches. *Y. Li, D. Liu, J.G. Chen, E. Stach, R.G. Nuzzo, A. Frenkel*

9:15 CATL 16. Study surface of catalyst nanoparticles using synchrotron X-ray photoelectron spectroscopy. *F. Tao, L. Nguyen, L. Gregoratti, M. Amati, M. Al-Hada, H. Sezen*

9:50 Intermission.

10:00 CATL 17. X-ray absorption spectroscopy studies of some metal nanocatalysts. *P. Zhang*

10:35 CATL 18. Elucidating ultrafast electron dynamics at surfaces using extreme ultraviolet (XUV) reflection-absorption spectroscopy. *L. Baker*

11:10 CATL 19. Catalysts for low-temperature hydrocarbon and carbon monoxide oxidation: In-situ/operando structural characterizations of the catalytic pathways. *S. Shan, J. Li, H. Kareem, Z. Wu, J. Luo, S. Wang, J. Luo, D. Tran, C. O'Brien, I. Lee, V. Petkov, C. Zhong*

11:35 CATL 20. About observing active sites with in situ and operando characterization. *J. van Bokhoven*

SECTION D

*Renaissance Boston Waterfront
Atlantic Ballroom 2*

Application of Electron Microscopy to Catalysis Studies

Visualization of Catalyst Structure with Electron Microscopy

H. Liu, Organizer

J. R. Jinschek, F. Tao, Organizers, Presiding

8:00 Introductory Remarks.

8:05 CATL 21. Atomic-scale study of bimetallic nanocatalysts by aberration-corrected electron microscopy. *Y. Yu, P. Yang*

8:25 CATL 22. Structure of Ziegler-Natta catalysts revealed by low-dose transmission electron microscopy. *D.F. Yancey, C. Kisielowski, P. Specht, J. Kang, S. Rozeveld, P. Nickias*

9:05 CATL 23. Time resolved and atomic resolution environmental TEM of metal surface in gas environment. *S. Takeda, H. Yoshida, N. Kamiuchi, T. Tamaoka, R. Aso*

9:45 Intermission.

9:55 CATL 24. In situ investigation of the evolution of layered chalcogenide catalysts during synthesis and processing. *M. McDowell, N. Kondekar, M. Boebinger*

10:30 CATL 25. New insights into the activation and deactivation of gold/ceria-zirconia in the low-temperature water-gas shift reaction. *J. Carter, X. Liu, Q. He, S. Althabban, E. Nowicka, S. Freakley, L. Niu, D. Morgan, Y. Li, S. Golunski, C. Kiely, G. Hutchings*

11:05 CATL 26. Use of transmission electron microscopy for industrial solid catalysts. *C. Akatay*

11:40 CATL 27. Structural evolution of metal nanoparticles in operando conditions. *Y. Gao, B. Zhu*

SECTION E

*Renaissance Boston Waterfront
Atlantic Ballroom 3*

Catalysis for Transformation of Carbon Dioxide or Nitrogen to Chemical & Fuel Feedstock

J. Huang, Organizer, Presiding
Y. Jiang, Presiding

8:00 CATL 28. Thermal and light effect in plasmonic catalysis. *X. Zhang, L.X. Li, W. Yang, H. Everitt, J. Liu*

8:40 CATL 29. Metal clusters, surface defects, and photoexcited electrons for CO₂ photoreduction. *S. Iyemperumal, J. Chen, T. Pham, G. Li, N.A. Deskins*

9:00 CATL 30. High temperature catalysis at low bulk temperatures using sunlight and nanoparticles: Photothermal production of methane and water from CO₂ and hydrogen. *T.M. Steeves, A. Esser-Kahn*

9:20 CATL 31. Plasmon-assisted Ru catalyzed hydrogenation of CO₂ to CH₄ using sunlight as energy source. *P. Buskens, F. Sastre Calabuig, N. Meulendijks, J. Sweelssen, K. Elen, M. Verheijen*

9:40 CATL 32. Surface reconstruction of tin-doped ceria nanorods for the photocatalytic reduction of CO₂. *T. Martin, Z. Wang, K. Tan, Y.J. Chabal, B.S. Guiton, K.J. Balkus*

10:00 Intermission.

10:20 CATL 33. Electrorreduction of CO₂ catalyzed by a heterogenized Zn-porphyrin complex with a redox-innocent metal center. *Y. Wu, J. Jiang, Z. Weng, M. Wang, D. Broere, Y. Zhong, G.W. Brudvig, Z. Feng, H. Wang*

10:40 CATL 34. Reactivity and mechanism of carbon dioxide reduction at supported metal phthalocyanines. *K. Manthiram*

11:00 CATL 35. Preparation and activity studies of supported metal sulfide clusters. *Y. Ma, M. Xue, M.G. White*

11:20 CATL 36. Quasi-2D Pd/Pt nanoclams for CO₂ reduction in tandem with microbial communities. *A.B. Wong, F. Kracke, A.D. Antonik-Pablant, C. Hahn, A. Spormann, T.F. Jaramillo*

11:40 CATL 37. The origin of the elusive first intermediate of CO₂ electroreduction. *I. Chernyshova, P. Somasundaran, S. Ponnurangam*

SECTION F

*Renaissance Boston Waterfront
Mediterranean*

Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level

W. Huang, F. Tao, Organizers
C. Tsung, Organizer, Presiding

Y. Zhang, Presiding

8:00 CATL 38. Design and computational study of active sites in metal-organic frameworks for oxidation of alkanes. *R. Snurr*

8:30 CATL 39. Metal-organic frameworks as highly functional catalytic arrays. *O.K. Farha*

9:00 CATL 40. Immobilizing ultrafine metal clusters to porous materials for enhanced catalytic performance. *Q. Xu*

9:30 CATL 41. Steering oxygen reduction pathways by docking cobalt-porphyrin nanogrids on graphene. *X. Huang, Y. Zhang*

9:55 Intermission.

10:05 CATL 42. Precise pore engineering of stable metal-organic frameworks for heterogeneous catalysis. *H. Zhou, S. Yuan, X. Yang*

10:35 CATL 43. In quest of atomically precise catalysts for oxidative C-H bond activation supported in metal-organic frameworks. *C.J. Cramer*

11:05 CATL 44. Nanoscale metal-organic frameworks: Emerging materials for catalysis. *Z. Tang*

11:35 CATL 45. Conductive metal-organic frameworks (MOFs) for electrocatalytic applications. *S. Marinescu*
Catalysis for Environmental & Energy Applications

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

SUNDAY AFTERNOON

SECTION A

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G*

Role of Water & Solvent in Heterogeneous Catalysis

K. A. Stoerzinger, Organizer

L. Arnadottir, Z. Feng, Organizers, Presiding

1:00 CATL 46. Calculations of electrochemical reduction of CO₂ to hydrocarbons and alcohols. *J. Hussain, E. Skúlason, H. Jansson*

1:30 CATL 47. *In situ* and *operando* investigations of electrochemical interfaces using ambient pressure XPS. *E. Crumlin*

2:00 CATL 48. Enhancing interface sensitivity of energy materials by resonant X-Ray scattering. *I. Cordova, G. Freychet, G. Su, C. Wang*

2:20 Intermission.

2:40 CATL 49. Role of surfaces and adsorbed water in indoor and outdoor air chemistry. *V.H. Grassian*

3:10 CATL 50. Role of water in oxidation of small molecules: Insights from in-situ spectroscopy. *K. Akkiraju, D. Weinberger, W.F. Ruettinger, Y. Shao-Horn*

3:30 CATL 51. Density functional theory study of the decarboxylation and decarbonylation of acetic acid over Pd (111). *K. Chuckwu, S. Seekins, L. Arnadottir*

3:50 CATL 52. Controlling solvent effects on heterogeneous catalysts with surface organic groups: Structure-activity relationships for pseudo-solvent effects. *D. Singappuli-Arachchige, J.S. Manzano, I.I. Slowing*

4:10 CATL 53. Solvent effects in acid and metal catalyzed reaction systems. *M. Neurock, C. Sanpitakserree, P. Bai*

SECTION B

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H*

Understanding Catalytic Sites on Amorphous & Disordered Materials

B. R. Goldsmith, A. Kulkarni, Organizers, Presiding

1:00 CATL 54. Computational insights into structure and catalytic properties of group VI metal oxides on amorphous silica. *J. Handzlik*

1:40 CATL 55. Interaction of nickel and amorphous aluminosilicate in heterogeneous oligomerization catalysts. *F. Nadolny, F. Alscher, S. Peitz, R. Franke, C. Breitkopf, W. Reschtlowski*

2:00 CATL 56. Self-sustaining and hysteresis behavior of low-temperature CO oxidation on mesoporous Pd/SiO₂ aerogel s catalyst under dynamics conditions. *K.M. Saoud, R. Al Soubaihi, J. Dutta*

2:20 CATL 57. MCAT-53TM as a novel and first of its class Ruthenium based catalyst. Synthesis of intermediate of Anacetrapib (a CETP inhibitor) in water instead of organic solvents using MCAT-53TM. *A. Mehta, B. Saha, A.A. Koohang, M. Chorghade*

2:40 Intermission.

2:55 CATL 58. Surface-mounted cluster catalysts: dynamic ensemble nature, and dominance of rare metastable sites in defining catalytic activity, selectivity, and durability. *A. Alexandrova*

3:35 CATL 59. Characterization of amorphous silica based catalysts and materials using DFT modeling tools. *F. Tielsen*

4:15 CATL 60. Toward an understanding of initiation in the Phillips catalyst. *C. Vandervelden, A. Fong, Y. Wang, S.L. Scott, B. Peters*

SECTION C

*Renaissance Boston Waterfront
Atlantic Ballroom 1*

Catalytic Insights from In-Situ/Operando X-ray & Neutron Techniques X-ray Catalysis

M. Tada, Z. Wu, Organizers

F. Tao, Organizer, Presiding

Y. Li, P. Zhang, Presiding

1:00 CATL 61. Using x-rays to determine the role of support in hydrogen spillover. *J. van Bokhoven*

1:40 CATL 62. Well-defined nanocrystals catalysts as active phases and premier materials for spectroscopic studies of catalyst restructuring. *M. Cargnello, E.D. Goodman, A. Aitbekova, C.J. Wrasman, A.R. Riscoe, A. Yang, F. Abild-Pedersen, S. Bare*

2:15 CATL 63. *In-situ* characterization of promoted Rh-based catalysts for ethanol synthesis. *P.C. Carrillo, R. Shi, M.G. White*

2:40 Intermission.

2:50 CATL 64. Catalytic surface chemistry studied with synchrotron radiation-based x-ray techniques. *W. Huang*

3:30 CATL 65. In situ XPS as a surface probe for C-H reforming reactions over M-Ceria (M=Co, Ni) catalysts. *S.D. Senanayake, Z. Liu, F. Zhang, J. Rodriguez*

4:05 CATL 66. Operando study of Cu single site, dimers and clusters over ceria surface. *F.R. Wang*

4:30 CATL 67. Direct comparison of structure-activity-relationship in ceria by experiment and theory. *T. Duchon, D. Mueller, C.M. Schneider, S. Nemsak*

4:55 CATL 68. The secret life of Al₂O₃ supported platinum nanoparticles during CO/O₂ redox cycling at room temperature and its relation to CO oxidation to CO₂ at room temperature. *M. Newton, D. Ferri, S. Checchia, M. Di Michiel, V. Lütz-Buono, P. Abdala, M. Nachtgeal*

SECTION D

*Renaissance Boston Waterfront
Atlantic Ballroom 2*

Application of Electron Microscopy to Catalysis Studies

Visualization of Catalyst Structure with Electron Microscopy

H. Liu, Organizer

J. R. Jinschek, F. Tao, Organizers, Presiding

1:00 CATL 69. *In situ* transmission electron microscopy studies of nanocatalysts at atomic resolution. *X. Pan, S. Dai, W. Gao, X. Yan, G.W. Graham*

1:40 CATL 70. Aqueously synthesized concave Rh nanotetrahedra with defective surfaces for defect- and plasmon-enhanced catalytic energy conversion. *C. Kuo, C. Kao, C. Kuo*

2:00 CATL 71. Probing synthesis mechanisms of core-shell metal nanoparticle catalysts at the atomic scale using *In Situ* STEM. *M. Chi, W. Gao, X. Pan, K. More, Y. Xia*

2:40 CATL 72. Synergistic effect in colloidal Pd/Au single atom alloy nanocrystals for selective oxidations. *C. Wrasman, A.R. Riscoe, A.S. Hoffman, A. Boubnov, S. Bare, M. Cargnello*

3:00 Intermission.

3:20 CATL 73. Ultrafast imaging of phase reaction dynamics in Au-GaAs nanowires using 4D electron microscopy. *B. Chen, Z. Cao, J. He, Z. Liu*

3:40 CATL 74. In-situ TEM studies of nanocatalysts under gas environment. *Y. Wang*

4:20 CATL 75. Phase-pure intermetallic nanocrystals and enhanced hydrogenation chemoselectivity with intermetallic PtCu nanocatalysts. *H. Yin, S. Zhou, H. Yu*

4:40 CATL 76. Control of catalysis by elemental substitution in Heusler alloys: Demonstration on selective hydrogenation of alkyne. *T. Kojima, S. Kameoka, S. Fujii, S. Ueda, A. Tsai*

SECTION E

*Renaissance Boston Waterfront
Atlantic Ballroom 3*

Catalysis for Transformation of Carbon Dioxide or Nitrogen to Chemical & Fuel Feedstock

J. Huang, Organizer, Presiding

Z. Wang, Presiding

1:00 CATL 77. New bimetallic Fe-based catalysts for CO₂ hydrogenation to C₂-C₄ olefins and C₅⁺ higher hydrocarbons. *C. Song*

1:40 CATL 78. Synergistic effect of dual cations co-anchored on ceria for reforming of methane with carbon dioxide. *F. Tao, Y. Tang*

2:00 CATL 79. CO₂ conversion to MeOH with membrane reactor using zeolite membrane. *M. Matsukata, D. Yoshida, M. Sakai, M. Seshimo*

2:20 CATL 80. Silica-based magnetically retrievable nanocatalysts for various chemical transformations. *R. Gaur*

2:40 CATL 81. Template-free synthesis of metal-doped ordered mesoporous polymer for carbon dioxide capture and conversion. *M. Nabavinia, I. Noshadi, M. Knighton, M. Briguglio*

3:00 Intermission.

3:20 CATL 82. Exploiting high-pressure advantages in hydrogenation of carbon dioxide to methanol. *A. Urakawa*

3:40 CATL 83. La-Fe-Ni-O CO₂ hydrogenation catalysts exploiting the reversible segregation of Ni. *P. Steiger, D. Ferri*

4:00 CATL 84. Imidazole functionalized MIL-101(Cr), via metal coordination, as a highly active catalyst for carbon dioxide utilization. *W.R. Webb, M. Potter, D. Stewart, S. Elliott, P. Sazio, L. Zhang, H. Luo, Z. Zhang, J. Teng, C. Ivaldi, I. Miletto, E. Gianotti, R. Raja*

4:20 CATL 85. Mechanistic insights into dopant-enhanced carbon dioxide hydrogenation into hydrocarbons over indium oxide/zeolite multifunctional catalysts. *S. Li*

4:40 CATL 86. Computer-aided bimetallic nanoparticle design for carbon dioxide adsorption and activation. *J. Dean, Y. Yang, N. Austin, G. Veser, G. Mpourmpakis*

SECTION F

*Renaissance Boston Waterfront
Mediterranean*

Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level

F. Tao, C. Tsung, Organizers

W. Huang, Organizer, Presiding

F. Shieh, Presiding

1:00 CATL 87. AIM-ing for catalyst synthesis with single-atom precision. *Z. Li, A. Peters, K. Otake, J. Liu, K.W. Chapman, H. Noh, T. Islamoglu, O.K. Farha, J.T. Hupp*

1:30 CATL 88. Carbon dioxide utilization within tetra-azamacrocyclic metal organic frameworks. *J. Zhu, P. Usov, A.J. Morris*

2:00 CATL 89. Controlling the structures of small molecules at the interface between a nanoparticle surface and a metal-organic framework. *C. Tsung*

2:30 CATL 90. Evaluating substrate diffusion during interstitial MOF catalysis. *D.C. Powers*

2:55 Intermission.

3:05 CATL 91. Metal-organic frameworks (MOFs) as a general platform for bridging homogeneous and heterogeneous catalysts. *S.T. Nguyen*

3:35 CATL 92. Task-specific design and functionalization of porous organic polymers for heterogeneous catalysis. *S. Ma*

4:05 CATL 93. Insights into MOF biochemistry: A study on the biological functionality of embedding the enzyme into metal-organic frameworks via *de novo* approach. *F. Shieh*

4:35 CATL 94. Insights into the binding and degradation of organophosphates on MOFs from a complementary experimental-modeling study. *J. Harvey, D.F. Sava Gallis, C. Pearce, J. DeCoste, M. Kinnan, J.A. Greathouse*

4:55 CATL 95. A metal-organic framework with exceptional activity for C-H bond amination. *X. Yu, S. Cohen*

MONDAY MORNING

SECTION A

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H*

Role of Water & Solvent in Heterogeneous Catalysis Transport & Reactions in Liquid-Solid & Gas-Liquid-Solid Systems

K. A. Stoerzinger, Organizer

L. Arnadottir, Z. Feng, Organizers, Presiding

8:00 CATL 96. Tailoring electro-oxidation kinetics by controlling the shape and composition of nano-scale electrocatalysts. *J. Park, M. Navaei, Z. Feng, S.W. Lee*

8:30 CATL 97. Highly disordered carbon for electrochemical ammonia synthesis using N₂ and H₂O in alkaline electrolytes. *G. Wu*

9:00 CATL 98. Probing the surface of platinum during the hydrogen evolution reaction in alkaline electrolyte. *K.A. Stoerzinger, M. Favaro, P. Ross, J. Yano, Z. Liu, Z. Hussain, E. Crumlin*

9:20 CATL 99. Non-covalent interactions in the solvation shell of one-electron electron transfer reactions. *B. Huang, S. Muy, S. Feng, Y. Katayama, Y. Lu, G. Chen, Y. Shao-Horn*

CATL

9:40 Intermission.

10:00 CATL 100. Hydrogenation of organic compounds on platinum group metals in aqueous media. **N. Singh, C.T. Campbell, J.A. Lercher, J. Fulton, O.Y. Gutiérrez**

10:30 CATL 101. In situ spectroscopic study of the structure of the electrical double layer in aqueous solutions near gold and platinum electrodes. **M. Salmeron**

11:00 CATL 102. Towards understanding the convoluted effects of confinement and solvent for alcohol dehydration on zeolites. **F. Chen, M. Wang, H. Shi, Y. Liu, O.Y. Gutiérrez, D.M. Camaioni, J. Lercher**

11:20 CATL 103. Solvent effects on elementary reactions in solid-acid catalyzed reactions: Acid-base interactions in zeolites. **Y. Mu, W. Elliott, L. Wang, R.M. Rioux**

11:40 CATL 104. On the stability of supported carbides (Mo,W) for deoxygenation reactions. **H. Bitter, T. Haasterecht, Van, T. Wiegersma, D. Stellwagen, R. Gosselink**

SECTION B

Renaissance Boston Waterfront
Atlantic Ballroom 1

2018 ACS Catalysis Lectureship for the Advancement of Catalytic Science: Symposium in honor of Nicholas Turner

W. Kroutil, Organizer, Presiding

8:25 Introductory Remarks.

8:30 CATL 105. Biocatalytic synthesis of amides using amide bond synthetases of the McbA family. **G. Grogan**

9:00 CATL 106. Development of a chemoenzymatic process for a gamma secretase modulator. **J.W. Wong**

9:30 CATL 107. Biocatalytic cascade catalysis for pharmaceuticals. **M. Truppo**

10:00 CATL 108. Biocatalysis in drug discovery and drug development- Reimaging the manufacture of medicine at Novartis. **R. Snajdrova**

10:30 Intermission.

10:40 CATL 109. Oxygen supply for enzyme-mediated biooxidations. **J. Woodley**

11:10 CATL 110. Recent advances in photoenzyme catalysis. **T. Hyster**

11:40 CATL 111. Exploring the synergy between biological catalysis and chemical catalysis. **H. Zhao**

SECTION C

Renaissance Boston Waterfront
Atlantic Ballroom 2

Catalytic Insights from In-Situ/Operando X-ray & Neutron Techniques

Neutron Catalysis

M. Tada, F. Tao, Organizers

Z. Wu, Organizer, Presiding
K. Page, A. Ramirez-Cuesta, Presiding

8:00 Introductory Remarks.

8:05 CATL 112. The application of neutron scattering techniques to investigate reactions relevant to gasoline-to-olefin formation over zeolite catalysts. **D. Lennon, A. Hawkins, A. Zachariou, A. O'Malley, P. Collier, I. Silverwood, R. Howe, S.F. Parker**

8:40 CATL 113. Probing solid-gas interfaces in situ with isotope contrasted neutron total scattering. **K. Page**

9:15 CATL 114. Insight into molecular behaviour in microporous catalysis using quasielastic neutron scattering. **A. O'Malley, S.F. Parker, C. Catlow, I. Silverwood, R. Howe, S. Matam, S. Chapman, R. Raja, M. Sarwar, I. Hitchcock, A. York**

9:40 Intermission.

9:50 CATL 115. Studying reaction on surfaces with inelastic neutron scattering. **A. Ramirez-Cuesta, L. Daemen, Y. Cheng**

10:25 CATL 116. Platinum-cerium oxide catalysts studied by ambient pressure X-ray photoelectron spectroscopy. **Y. Mueanggern, X. Yang, Y. Tang, F. Tao, L. Baker**

10:45 CATL 117. Application of inelastic neutron scattering to investigate an iron-based Fischer-Tropsch catalyst as a function of time on stream. **A.L. Davidson, D.A. Maclaren, P.B. Webb, R.P. Toozee, S.F. Parker, D. Lennon**

11:10 CATL 118. Probing the dynamics and structure of confined benzene in MCM-41 based catalysts. **D. Dervin, C. Hardacre, R. Catlow**

11:35 CATL 119. What effect does confinement have on the structure of liquid benzene? **M. Falkowska, D. Bowron, H. Manyar, T.G. Youngs, C. Hardacre**

SECTION D

Renaissance Boston Waterfront
Atlantic Ballroom 3

Application of Ambient Pressure XPS to Catalysis Studies

Catalyst Surface Tracked with AP-XPS

H. Liu, Organizer

L. Baker, F. Tao, Organizers, Presiding

8:00 Introduction Remarks.

8:05 CATL 120. Copper-cobalt surface alloys in equilibrium with carbon monoxide gas. **M. Salmeron**

8:45 CATL 121. Present and new frontiers in APXPS catalysis research: Examples from MAX IV. **J. Schnadt, J. Knudsen, A. Shavorskiy, S. Zhu**

9:25 CATL 122. From classical model catalysts to liquid metal alloys. **C. Papp, H. Steinrueck**

10:05 CATL 123. Instrumentation for studying surface of a catalyst at high temperature in near ambient pressure with X-ray photoelectron spectroscopy. **D. Wang, L. Nguyen, Y. Tang, F. Tao**

10:30 Intermission.

10:40 CATL 124. A key factor for activity of catalytic reaction observed via operando measurements with near ambient pressure XPS. **H. Kandoh**

11:20 CATL 125. In situ surface characterization of Pt-Cu single atom alloy model system in ambient pressure of gases. **I. Waluyo**

SECTION E

Renaissance Boston Waterfront
Mediterranean

Catalysis for Transformation of Carbon Dioxide or Nitrogen to Chemical & Fuel Feedstock

J. Huang, Organizer, Presiding

D. Ferri, Presiding

8:00 CATL 126. Carbon dioxide to formic acid and to methanol: Homogeneous catalytic ways in aqueous solution at room temperatures. **G. Laurency**

8:40 CATL 127. Heterogeneous molecular catalysts for green chemical synthesis and carbon dioxide reduction. **Y. Jiang**

9:00 CATL 128. Fe-based magnetic ionic liquids: Synthesis, characterization, and application for carbon dioxide fixation. **M. Leu, I. Cano, A. Gual, I. Vicente, J. Alves Fernandes, V. Sans Sangorin, J. Dupont, P. Licence**

9:20 CATL 129. Bio-inspired complexes for efficient catalytic interconversion between CO₂/H₂ and formic acid. **W. Wang, Y. Himeida, M. Bao**

9:40 CATL 130. CO₂ hydrogenation for hydrogen storage using iridium catalysts with deprotonated picolinamide ligands. **Y. Himeida, R. Kanega, N. Onishi, L. Wang, M. Ertem, J.T. Muckerman, E. Fujita**

10:00 Intermission.

10:20 CATL 131. Investigations into carboxylations through a Ni(II)-intermediate. **S. Laursen**

10:40 CATL 132. Design of nano-gold catalysts for carbon dioxide hydrogenation to formic acid. **X. Wang, Q. Liu, X. Yang, Y. Huang**

11:00 CATL 133. Carbon dioxide reforming of methane over Ni-based catalysts: Effects of support properties and metal loading. **Z. Wang**

11:20 CATL 134. Deactivation study on Ni based pyrochlores in dry reforming of methane. **S. Bhattar, A. Krishnakumar, S. Kanitkar, A. Abedin, D. Shekhawat, D. Haynes, J.J. Spivey**

11:40 CATL 135. Formic acid from CO₂ or carbonatite via transfer hydrogenation from glycerol: Mechanistic implications for catalyst design. **A. Voutchkova**

SECTION F

Renaissance Boston Waterfront
Brewster

Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level

F. Tao, Organizer

W. Huang, C. Tsung, Organizers, Presiding

8:00 CATL 136. New catalytic materials through atomic layer-by-layer deposition. **Y. Xia**

8:30 CATL 137. Manipulating Au/TiO₂ interface for electron-driven heterogeneous catalysis. **W. Wei**

9:00 CATL 138. Computational study of metal/nitrogen co-doped carbon catalysts for oxygen reduction reaction. **G. Wang**

9:30 CATL 139. Coupling solar energy into catalytic organic synthesis. **Y. Xiong**

10:00 Intermission.

10:15 CATL 140. Nanoscale engineering of efficient oxygen reduction electrocatalysts by tailoring the local chemical environment of Pt surface sites. **S. Linc**

10:45 CATL 141. Architectural design of bimetallic Au-Pd nanocrystals toward utilization of visible light energy for sensing and catalysis. **C. Kuo, Y. Chuang, D. Cullen, J. Huang**

11:10 CATL 142. Ordered bimetallic nanoparticles for heterogeneous catalysis. **C.R. Bowers, W. Huang**

11:40 CATL 143. Understanding the active sites and reaction mechanism for oxygen electrocatalysis on ruthenium dioxide surfaces. **R.R. Rao, Y. Shao-Horn**

MONDAY AFTERNOON

SECTION A

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H

General Catalysis

K. K. Ramasamy, D. E. Resasco, F. Tao, Organizers
K. Lin, J. A. Lopez-Ruiz, Presiding

1:00 Introductory Remarks.

1:05 CATL 144. Amphiphilic dipyrindinium-phosphotungstate complex as an active, selective and recyclable catalyst for the epoxidation of oils and fatty acids with hydrogen peroxide. **L. de la Garza Becerra, A.H. Moores**

1:25 CATL 145. Shaping of catalysts: Additive manufacturing for heterogeneous catalysis. **T. Ludwig, B. Rieger, C. Troll, R. Fischer, M. Tonigold**

1:45 CATL 146. Green synthesis of N-doped multilayer graphene/silver nano-particle composite using tea leave extract and its application as electrocatalyst for oxygen reduction reaction. **C. Senarathna, S.P. Randiligama, R. Rajapakse**

2:05 CATL 147. Sintering-resistant anionic single atom catalysts for O₂ activation. **T. Krapp, M. Mavrikakis**

2:25 CATL 148. Gold nanoparticles decorated, "Click" chemistry assisted Fe₃O₄-CNT nanohybrid heterostructure and appraisal of their catalytic activity. **D. Samanta, S. Konar, A. Pathak**

2:45 CATL 149. Pd nanoparticles and aminopolymers encapsulated in hollow silica spheres as stable heterogeneous catalysts for semihydrogenation of alkynes. **Y. Kuwahara, H. Yamashita**

3:05 CATL 150. Double-shelled nanoreactor as support for confined catalytic reactions. **G. Arora**

3:25 CATL 151. Ti-catalyzed radical alkylation of secondary and tertiary alkyl chlorides. **X. Wu**

3:45 Intermission.

3:55 CATL 152. Encapsulated heterogeneous catalysts in monolithic structures for continuous flow catalytic reactions. **S. Smith, S. Ghobadi, S.E. Gilliland, C.E. Castano, F. Gupton**

4:15 CATL 153. Construction of an operando dual-beam fourier transform infrared spectrometer and its application in heterogeneous catalysis characterization. **J. Liu, W. Zhou, Q. Xin, H. Guo**

4:35 CATL 154. Automatic microkinetic mechanism generation for heterogeneous catalysis. **R.H. West, E. Mazaev, F. Goldsmith**

4:55 CATL 155. Sandwich-structured Pt@ZSM-5 nanosheet hybrid composites for catalytic combustion of toluene. **G. Liu, Y. Tian, B. Zhang, L. Wang, X. Zhang**

5:15 CATL 156. Reactions of formaldehyde in methanol conversion to olefins on H-ZSM-5 catalysts. **F.M. Kirchnerberger, Y. Liu, S. Müller, M. Tonigold, M. Sanchez-Sanchez, J.A. Lercher**

SECTION B

Renaissance Boston Waterfront
Atlantic Ballroom 1

2018 ACS Catalysis Lectureship for the Advancement of Catalytic Science: Symposium in honor of Nicholas Turner

W. Kroutil, Organizer

G. Grogan, Presiding

1:00 Introduction Remarks.

1:05 CATL 157. Conformational heterogeneity in the evolution of enzyme function. **S. Osuna, C. Curado, E. Serrano-Hervás, G. Casadevall, A. Romero-Rivera, M. Garcia-Borràs, F. Feixas**

1:35 CATL 158. Interfacing between experimental and computational enzyme engineering. **J. Pelletier**

2:05 CATL 159. Biocatalytic sp²-sp²/sp³ C-C bond formation and chiral amines. **W. Kroutil, E. Eger, J. Farnberger, J. Pletz, A. Zadlo-Dobrowska, G. Grogan, K.N. Houk, A. Simon**

2:35 Intermission.

2:50 CATL 160. Development of a protease-stable Phenylalanine Ammonia Lyase as orally-administered enzyme therapy for potential treatment for PKU. **G.W. Huisman, W. Hallows, C. Chng, N. Dellas**

- 3:20 CATL 161.** Biocatalysis: Harnessing the power of nature's catalysts to build complex molecules. *A.R. Narayan*
- 3:50 CATL 162.** Directed evolution of artificial metalloenzymes. *J.C. Lewis*
- 4:20** Presentation of ACS Catalysis Lectureship Award.
- 4:25 CATL 163.** Design and evolution of new biocatalysts for organic synthesis. *N. Turner*
- 5:05** Concluding remarks.

SECTION C

Renaissance Boston Waterfront
Atlantic Ballroom 2

Heterogeneous Catalyst Development for Biomass Upgrading

F. G. Baddour, D. A. Ruddy, *Organizers*

S. Habas, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 CATL 164. Catalytic deoxygenation on transition metal carbides. *A. Bhan*

1:25 CATL 165. Late transition metal modified β Mo₂C catalysts for enhanced hydrogenation during guaiacol deoxygenation. *D. Ruddy, F. Baddour, V. Witte, C. Nash, M. Griffin, J.A. Schaidle*

1:45 CATL 166. Developing electrocatalytic processes for the hydrogenation of biomass-derived molecules at normal temperature and pressure. *J.A. Lopez-Ruiz, K. Koh, U. Sanyal, J. Egbert, A. Padmaperuma, J. Holladay*

2:05 CATL 167. A molecular approach to the design and synthesis of metal carbide catalysts for biomass upgrading. *F. Baddour, D. Ruddy, C. Nash, S. Habas, J.A. Schaidle*

2:25 CATL 168. High-throughput synthesis of nanostructured catalysts for biomass conversion processes. *S. Habas, E.J. Roberts, D. Ruddy, E. White, F. Baddour, M. Griffin, J.A. Schaidle, N. Malmstadt, R.L. Brutchey*

2:45 Intermission.

3:05 CATL 169. Enhanced ethanol conversion to ethylene on supported single site Co catalysts. *P.D. Srinivasan, J.J. Bravo-Suarez*

3:25 CATL 170. Cost insight for catalyst R&D and commercialization decisions with the catalyst cost estimation tool. *K.M. Van Allsburg, J.D. Super, J.F. White, J.G. Frye, L. Snowden-Swan, J.A. Schaidle, F.G. Baddour*

3:45 CATL 171. Catalytic site elucidation on Cu₂Zn-promoted MgO/SiO₂ catalyst using in situ/operando measurements and DFT calculations. *W. Taifan, J. Baltrusaitis*

4:05 CATL 172. Aldol condensation on oxide catalysts: Mechanisms and effects of thermal treatments and metal identity. *D. Flaherty, H. Zhang, D. Bregante*

4:25 CATL 173. Unique active sites at the metal/support interface for the production of high value products from furanics. *A. Gomez, L. Herrera, L. Barrett, S. Crossley*

SECTION D

Renaissance Boston Waterfront
Atlantic Ballroom 3

Application of Ambient Pressure XPS to Catalysis Studies**Catalyst Surface Tracked with AP-XPS**

H. Liu, *Organizer*

L. Baker, F. Tao, *Organizers, Presiding*

1:00 CATL 174. Near ambient pressure photoemission-based surface techniques for surface catalysis. *Q. Fu*

1:40 CATL 175. Interactions of gaseous molecules with X-ray photons and photoelectrons in AP-XPS study of solid surface in gas phase. *F. Tao*

2:05 CATL 176. Ambient pressure XPS for catalysis studies of binary alloys. *M. van Spronsen, C. O'Conner, T. Egle, C.M. Friend, R.J. Madix*

2:45 Intermission.

2:55 CATL 177. In-situ X-ray photoelectron spectroscopy for electrode/electrolyte interfaces. *T. Masuda*

3:35 CATL 178. Ambient XPS studies of surface intermediates in alcohol conversions over perovskites. *Y. Zhang, A. Savara, D.R. Mullins*

3:55 CATL 179. Intermetallic nanoparticles with atomic precision for selective hydrogenation of nitroarenes. *W. Huang, Y. Pei*

4:35 CATL 180. Palladium oxidation and catalytic activity towards CH₄, C₂H₄, CH₃OH. *D. Zemlyanov, B. Klötzer*

4:55 CATL 181. Understanding adsorption processes on iron oxide surfaces for ammonia formation using ambient pressure-XPS. *K.A. Perrine, M. Trought, S. Nemsak, E. Crumlin*

SECTION E

Renaissance Boston Waterfront
Mediterranean

Catalysis for Transformation of Carbon Dioxide or Nitrogen to Chemical & Fuel Feedstock

J. Huang, *Organizer, Presiding*

A. Urakawa, *Presiding*

1:00 CATL 182. Ammonia synthesis catalyst: Today and tomorrow. *H. Liu*

1:30 CATL 183. Physical catalysis for the conversion of dissolved nitrogen gas to ammonia at room temperature. *A. Rondinone*

1:50 CATL 184. Developing metal catalysts for efficient electroreduction of nitrogen to ammonia. *X. Feng*

2:10 CATL 185. Electrochemical reduction of N₂ to ammonia under ambient conditions on N-doped porous carbon. *X. Quan, Y. Liu*

2:30 CATL 186. Photocatalytic N₂ fixation: A new route for NH₃ fuel. *W. Wang, X. Sun, X. Li, S. Sun*

2:50 Intermission.

3:10 CATL 187. Computational design of high-performance single-atom electrocatalysts for nitrogen fixation. *Z. Chen*

3:30 CATL 188. Semiconductor photocatalyst for solar fuels production. *S. Sun*

3:50 CATL 189. Investigation of intramolecular electron transfer of Ru(II)-Ru(II) and Ru(II)-Re(I) supramolecular photocatalysts for CO₂ reduction. *R. Sampaio, D.C. Grills, K. Koike, Y. Tamaki, O. Ishitani, E. Fujita*

4:10 CATL 190. Suppression of deactivation processes in homogeneous photocatalytic reduction of CO₂. *M. Pschenitzka, S. Meister, B. Rieger*

4:30 CATL 191. Biogas dry reforming using solid waste derived catalyst: a green pathway from waste to hydrogen energy. *Y. Gao, J. Jiang, Y. Meng, Y. Xu, M. Yang*

4:50 CATL 192. Highly-selective hydrogenation of CO₂ to 1,4-dioxane under mild conditions. *S. Ni, J. Zhu, C. Li, R. Lennox*

SECTION F

Renaissance Boston Waterfront
Brewster

Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level

W. Huang, F. Tao, *Organizers*

C. Tsung, *Organizer, Presiding*

M. Waegele, *Presiding*

1:00 CATL 193. Nanoparticle catalysis controlled at atomic level. *S. Sun*

1:30 CATL 194. Atom-level control of active structures of rare earth/noble metal nanocatalysts for enhanced catalytic properties. *Y. Zhang*

2:00 CATL 195. Atomic-level control: From single atom to one-atom-thin interface. *D. Jiang*

2:30 CATL 196. Appearance of an electrochemically inert CO sub-population on Cu electrodes under CO reduction conditions in alkaline pH. *M. Waegele, C. Gunathunge, V. Ovalle, Y. Li, M.J. Janik*

2:55 Intermission.

3:05 CATL 197. Fundamental aspects of electrocatalysis by transition metal-nitrogen coordinated structures. *S. Mukerjee*

3:35 CATL 198. Immobilizing molecular catalysts for solar water oxidation. *D. Wang, Y. Zhao, W. Li, D. He*

4:05 CATL 199. Catalyst materials development for electrochemical CO₂ splitting devices. *H. Wang*

4:30 CATL 200. Electrode-electrolyte interfaces in energy conversion and storage. *M. Toney*

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications**Thermochemical & Biochemical Processes**

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

3:35 CATL 198. Immobilizing molecular catalysts for solar water oxidation. *D. Wang, Y. Zhao, W. Li, D. He*

4:05 CATL 199. Catalyst materials development for electrochemical CO₂ splitting devices. *H. Wang*

4:30 CATL 200. Electrode-electrolyte interfaces in energy conversion and storage. *M. Toney*

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MONDAY EVENING**SECTION A**

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

K. K. Ramasamy, F. Tao, *Organizers*

8:00 – 10:00

302, 312, 314, 316, 318, 320-321, 324, 329, 333, 335, 338, 341, 343, 346, 350, 352, 353. See subsequent listings.

TUESDAY MORNING**SECTION A**

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G

General Catalysis

K. K. Ramasamy, D. E. Resasco, F. Tao, *Organizers*

K. Lin, J. A. Lopez-Ruiz, *Presiding*

8:00 CATL 201. 3D graphene aerogel supported MoS₂ and WS₂ heterostructures as high performance electrocatalysts. *S. Lonkar, V.V. Pillai, S. Al Hassan*

8:20 CATL 202. A hybrid organic linker forms an efficient non-supported non-precious-metal-based metal-organic coordination network porous material for oxygen reduction reaction. *K. Ping, R. Bhadoria, N. Kongi, P. Starkov, K. Tammeveski*

8:40 CATL 203. Super small polymeric carbon nitride nanosphere for photocatalytic hydrogen evolution. *H. Wang, S. Zhang, M. Li, X. Zhu, X. Liu, Q. Ge*

9:00 CATL 204. Hypervalent iodine (III) supporting UiO-67 and DUT-5 as catalysts for the oxidation of aromatic diols. *B. Tahmouresilard, L. Agogo, A.F. Cazzolino*

9:20 CATL 205. Synthesis and characterization of template-free ordered mesoporous catalyst. *M. Nabavina, I. Noshadi, A. Hesketh, P. Phillip Wall, M. Knighton, E. Kuhlman, S. Rittweger, J. Ryan*

9:40 CATL 206. Characterization of organometallic complexes supported by β -diketonate ligands. *E.J. Hopkins, S.J. Scappaticci, A.S. Crossman, M.P. Marshak*

10:00 CATL 207. Transfer hydrogenation of carbonyl compounds with isopropanol under base-free conditions catalyzed by a metal-ligand bifunctional iridium catalyst. *F. Li*

10:20 Intermission.

10:30 CATL 208. Hexamethyl-1, 1'-spirobiindane-based bisoxazoline (HMSI-BOX) ligands for Fe-catalyzed asymmetric reactions. *H. Gu, L. Xu-Feng*

10:50 CATL 209. Magnesium salts and imidazole: Cost-effective and sustainable catalysts for the efficient synthesis of primary amides from unactivated carboxylic acids. *P. Marce-Villa, A. Chhatwal, H. Lomax, A. Blacker, J. Williams*

11:10 CATL 210. Abnormal N-heterocyclic carbenes as ligands in catalytic transfer hydrogenation and as central modules in heterobimetallic complexes. *L. Pardatscher, M.J. Bitzer, R. Reich, W. Baratta, F.E. Kuehn*

11:30 CATL 211. Functionalizing olefins via a new radical catalytic mechanism of nitroxides. *J.C. Siu*

11:50 CATL 212. Stable CAAC-based complexes in dynamic olefin metathesis. *O. Kravchenko, B. Timmer, M. Biedermann, K. Inge, O. Ramstrom*

SECTION B

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F

Fundamental Understanding of Catalysis at Interface through Computational Approach**Electrochemical Interfaces & Catalysis**

D. Jiang, *Organizer, Presiding*

F. Jiao, *Presiding*

8:00 CATL 213. Catalytic cycle elucidation for oxygen reduction on graphite-conjugated catalysts. *N. Rieke, T. Marshall-Roth, A.T. Murray, Y. Surendranath, T.A. Van Voorhis*

8:20 CATL 214. Electrochemical CO₂ conversion to valuable chemicals. *F. Jiao, M. Jouy*

9:00 CATL 215. New active electrode systems for electrosynthesis. *S.R. Waldvogel*

9:40 Intermission.

10:10 CATL 216. Strong metal-oxide interactions and materials design for electrocatalytic CO₂ reduction reactions. *H. Wang*

10:50 CATL 217. Chemical and electrochemical stability of perovskite oxide surfaces in energy conversion: Mechanisms and improvements. *B. Yildiz*

11:30 CATL 218. Non-covalent interactions at electrified interfaces in energy conversion and storage reactions. *B. Huang, Y. Katayama, R.R. Rao, Y. Shao-Horn*

SECTION C

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H

Heterogeneous Catalyst Development for Biomass Upgrading

F. G. Baddour, S. Habas, *Organizers*

D. A. Ruddy, *Organizer, Presiding*

CATL

8:00 CATL 219. Selectivity dependence in catalytic hydrogenolysis of lignin and lignin model compounds on the choice of metal and support. *S.L. Scott*

8:20 CATL 220. *In-situ* NMR of the catalytic depolymerization of lignin model polymers. *Y. Gao, M.B. Foston, H. Duan*

8:40 CATL 221. Lignin valorization by pyrolysis and catalytic oxidation over supported vanadia catalysts. *M. Yung, C. Mukarakate, M.R. Nimlos*

9:00 CATL 222. Direct biomass conversion into fuels and chemicals over multifunctional nanozeolite-Y based catalyst. *D. Verma, R. Insyani, J. Kim*

9:20 Intermission.

9:40 CATL 223. Low temperature C-H bond breaking on an inexpensive metal oxide: Methanol to formaldehyde on cerium oxide. *J.E. Sutton, T. Danielson, A. Beste, A. Savara*

10:00 CATL 224. Highly selective production of acrylic acid from glycerol via two-step pathway using Au/CeO₂ catalysts. *M. Kim, H. Lee*

10:20 CATL 225. Controlling catalytic activity and selectivity of bioprivileged 2-pyrone platform intermediates to functionalized aromatics: The influence of acid sites and solvents. *M. Neurock, A. Chemburkar, T. Pfennig, B.H. Shanks*

10:40 CATL 226. Acid catalyzed production of 1,3-butadiene from biomass derived tetrahydrofuran. *O. Abdelrahman, P.J. Dauenhauer*

SECTION D

*Renaissance Boston Waterfront
Atlantic Ballroom 2*

Catalytic Activation & Chemical Transformation of Light Alkanes

K. K. Ramasamy, F. Tao, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 CATL 227. Selective oxidation of n-butane to maleic anhydride over multi-walled carbon nanotube doped VPO catalyst. *X. Chen, B. Wen, R. Liu, S. Zhang*

8:30 CATL 228. Hydrocarbon upgrading on sulfur containing catalysts. *L. Sharma, R. Upadhyay, A. Wang, G. Yan, M. Ford, I.E. Wachs, Z. Wu, S. Rangarajan, J. Baltrusaitis*

9:05 CATL 229. Reactivity of PdZn surfaces: From simplicity of atomically flat surfaces to complexity of technical catalysts. *C. Milligan, J.T. Miller, F. Ribeiro, D. Zemlyanov*

9:35 CATL 230. Dry reforming of methane over CeO₂-supported Pt-Co catalysts with enhanced activity. *Z. Xie, B. Yan, S. Kattel, J. Lee, S. Yao, Q. Wu, J.G. Chen*

9:55 Intermission.

10:05 CATL 231. Role of confinement in selective C-H bond activations in MoV oxides. *Y. Liu, A. Leelavathi, S. Ezenwa, P. Deshlahra*

10:25 CATL 232. Brønsted and Ga Lewis acid synergy in ZSM-5 for alkane dehydrogenation. *M. Schreiber, C. Plaisance, R. Bermejo de Val, J. Lercher*

11:15 CATL 233. PtCu single atom alloys for selective CH activation. *P. Kress*

11:45 CATL 234. Effect of the surface termination of perovskite catalysts on acid-base catalysis and methane activation. *F. Polo-Garzon, V. Fun, X. Liu, S. Yang, G. Foo, E. Bickel, L. Bai, M. Chisholm, M. Chi, D. Jiang, Z. Wu*

SECTION E

*Renaissance Boston Waterfront
Atlantic Ballroom 3*

New Vistas in Heterogeneous Catalysis: Symposium in honor of Robert Grasselli

D. Buttrey, W. A. Goddard, A. F. Volpe, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 CATL 235. Remembering Robert K. Grasselli: Reflections on three decades of collaboration on complex oxides for selective oxidation. *D.J. Buttrey*

8:40 CATL 236. Quantum mechanics based mechanisms for selective activation of hydrocarbons by mixed metal oxide heterogeneous catalysts – A tribute to Robert Grasselli. *W.A. Goddard*

9:15 CATL 237. Irsee symposium revisited – My memories of Professor Robert Grasselli. *M. Bhasin*

9:50 Intermission.

10:10 CATL 238. Support effect in oxide catalysis: C-H bond activation on vanadia/ceria compared to vanadia/silica. *J. Sauer*

10:45 CATL 239. Low temperature selective oxidation of ethylbenzene by catalyzed co-oxidation using Co-ZSM-5 and solubilized Au clusters catalysts. *A. Peng, M. Ross, L. Qian, M. Kung, B.M. Hoffman, H. Kung*

11:20 CATL 240. Modern insights into bulk mixed metal oxide catalysts. *I.E. Wachs*

SECTION F

*Renaissance Boston Waterfront
Mediterranean*

Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level

F. Tao, C. Tsung, *Organizers*

W. Huang, *Organizer, Presiding*
L. Baker, *Presiding*

8:00 CATL 241. Alloy catalysis spanning composition space: Hydrogenation on Cu₂Au, Pd_{1-x}Ag_x. *A.J. Gellman, I. Sen, P. Kondratyuk*

8:30 CATL 242. Tailoring the activity of Pt/CeO₂ catalysts via high temperature synthesis. *X. Pereira-Hernandez, A. DeLaRiva, D. Kunwar, H. Xiong, B. Sudduth, M. Engelhard, L. Kovarik, Y. Wang, A.K. Datye*

9:00 CATL 243. Parahydrogen spin labelling studies of hydrogenation catalysis over silica-encapsulated Pt-Sn intermetallic nanoparticles. *E. Zhao, H. Hagelin-Weaver, W. Huang, C.R. Bowers*

9:30 CATL 244. Effects of co-processing organic chlorides on rates and selectivity of ethylene epoxidation on promoted Ag/Al₂O₃ catalysts. *J.W. Harris, C. Chen, A. Bhan*

10:00 Intermission.

10:10 CATL 245. The challenge of creating well-defined cation sites in zeolite: A study of propane dehydrogenation on Ga/H-MFI. *A.T. Bell*

10:40 CATL 246. Single rhodium atoms anchored in micropores for efficient transformation of methane to acetic acid and methanol under mild conditions. *F. Tao*

11:10 CATL 247. Catalysis at multiple length scales: Bifunctional activation at nanoscale and mesoscale interfaces in platinum-cerium oxide catalysts. *L. Baker, Y. Mueangern*

11:35 CATL 248. Nano-catalysts for the synthesis/dehydrogenation of formic acid as a renewable hydrogen carrier. *K. Mori, S. Masuda, H. Yamashita*

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Hydrogen, Biofuels & Biomass Upgrading

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

TUESDAY AFTERNOON

SECTION A

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G*

General Catalysis

K. K. Ramasamy, D. E. Resasco, F. Tao, *Organizers*

K. Lin, J. A. Lopez-Ruiz, *Presiding*

1:00 CATL 249. Microwave catalytic conversion of ethane to higher value chemicals. *X. Bai, B. Robinson, S. Tiwari, J. Hu*

1:20 CATL 250. Insights into the structure-performance of Fe-based Fischer-Tropsch Synthesis catalysts: From the surface to the bulk. *J. Wang, S. Huang, X. Ma*

1:40 CATL 251. Synthesis of doped layered double hydroxides in a meso-scale continuous flow reactor. *P. Yaseneva, N. An, M. Finn, N. Tidemann, N. Jose, A. Voutchkova, A. Lapkin*

2:00 CATL 252. Reactivity of inverse catalysts prepared by size-selected deposition of metal oxide clusters. *K. Goodman, M. Xue, J. Wang, M.G. White*

2:20 CATL 253. Development of a new generation of stable, tunable, and catalytically active nanoparticles produced by the helium nanodroplet deposition and doping segregation methods. *A. Orlov, Q. Wu, J.G. Chen, E. Stach, M. Lindsay, C. Ridge, A. Frenkel*

2:40 CATL 254. Optimized phase heterojunctions in enhancing the photoelectrochemical activity of TiO₂ photoanodes: A surface energy insight. *A.R. Ballestas Barrientos, T. Maschmeyer, A. Masters*

3:00 CATL 255. Study of parameters affecting carburization extent of active metallic species for the non-oxidative valorization of natural gas. *S. Balyan, S. Mishra, M. Haider, K.K. Pant*

3:20 CATL 256. Highly active and stable carbon nanosheets supported iron oxide nanocatalysts for Fischer-Tropsch to olefins synthesis. *Y. Zhou, S. Natesakhawat, T. Nguyen Phan, C. Marin, D. Kauffman, J. Lekse, C. Matranga, H. Xin, E. Stavitski, K. Attenkofer, I. Waluyo, Y. Tang, Y. Guo, A. Roy, C. Wang*

3:40 Intermission.

3:50 CATL 257. Improving methanol-to-olefins turnover capacity of CHA materials by controlling methanol transfer dehydrogenation rates. *P. Bollini, A. Bhan*

4:10 CATL 258. Taming hydrogen cyanide and methyl mercaptan for homogeneous catalysis. *S. Kristensen, T. Skrydstrup*

4:30 CATL 259. Insights into the effect of metal mole ratio in PtNiCu catalysts for the study of the ethanol oxidation reaction. *S. Jilani, E. Iyanobor, D. Zager, Y. Tang*

4:50 CATL 260. Elucidation of methanol poisoning mechanism of sulfonic acid catalysts. *M. Salazar, C. Chi, S. Fetsko*

5:10 CATL 261. Determining molecular mechanisms for gas adsorption in metal-organic frameworks using X-ray spectroscopy. *W. Drisdell, G. Su, L. Wan, D. Prendergast, J. Kortricht*

SECTION B

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F*

Fundamental Understanding of Catalysis at Interface through Computational Approach

Hydrogen Evolution & Related Reactions

D. Jiang, *Organizer*

Z. Chen, Y. Sun, *Presiding*

1:00 CATL 262. High activity hydrogen evolution catalysis by uniquely designed amorphous/metal interface of core-shell phosphosulfide/N-doped CNTs. *B. Han*

1:20 CATL 263. Interfacial metals and metal nitrides creates superior electrocatalysts for both hydrogen evolution and oxidation reactions. *Y. Sun*

2:00 CATL 264. Theoretical suggestion and experimental proof for functionalization of h-BN by gold as electrocatalysts for ORR and HER. *T. Taketsugu, A. Lyalin, M. Gao, K. Uosaki*

2:40 Intermission.

3:00 CATL 265. Molecular mimics of MoS₂ edges for hydrogen-evolution electrocatalysis. *Y. Wu*

3:40 CATL 266. Chemistries of layered transition metal compound materials. *A. Vojvodic*

4:20 CATL 267. Computational quest for high-performance single-atom electrocatalysts. *Z. Chen*

5:00 CATL 268. Co-activation of CO₂ and CH₄ on ZnO/In₂O₃ for direct C-C formation. *Y. Zhao, X. Zhu, H. Wang, J. Han, D. Mei, Q. Ge*

SECTION C

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H*

Heterogeneous Catalyst Development for Biomass Upgrading

S. Habas, D. A. Ruddy, *Organizers*

F. G. Baddour, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 CATL 269. Opportunities and limitations for surface science-informed design of deoxygenation catalysts.

J.W. Medlin

1:25 CATL 270. Insights into the electrochemical conversion of biomass derivatives to fuels and chemicals. *A. Román, Z. Barton, A. Holewinski*

1:45 CATL 271. Increasing conversion selectivity for biomass relevant reactions through molecularly tuning catalyst design. *N.A. Brunelli, N. Deshpande, C. Yang, E. Cho, M. Whitaker, L. Pattanaik, L. Lin*

2:05 CATL 272. Hydrophobic modification of grafted sulfonic acid/silica catalysts does improve their tolerance to water during esterification. *W. Elliott, I. Burgos, J. Sutyak, Y. Mu, R.M. Rioux*

2:25 CATL 273. Various nanocatalysts for catalytic furfural hydrogenation. *K. An*

2:45 Intermission.

3:05 CATL 274. Biphasic catalytic process for production of renewable fuels and chemicals. *H. Lin*

3:25 CATL 275. Preventing the deactivation of Sn-containing zeolites during continuous biomass processing. *C. Hammond*

3:45 CATL 276. One-pot direct conversion of cellulose-derived compounds into highly selective 2,5-dimethylfuran over multifunctional Cu-Pd/Zr-based metal-organic framework heterogeneous catalyst. *R. Insyani, D. Verma, J. Kim*

4:05 CATL 277. Mesoporous catalyst for microalgae liquified biocruude upgrading: Kinetics and mechanism study. *J. Bian, J. Li, C. Li, L. Feng*

SECTION D

*Renaissance Boston Waterfront
Atlantic Ballroom 2*

Advanced Catalytic Materials with Well-Defined Nanostructures for Energy & Fuel Sustainability

A. Orlov, *Organizer*

D. Su, S. Zhang, *Organizers, Presiding*

1:00 CATL 278. Subphthalocyanine-based covalent organic frameworks for organic photovoltaics. *S.A. Lopez, J.M. Cox*

1:20 CATL 279. Photochemical synthesis route to typical transition metal sulfides as highly efficient cocatalyst for hydrogen evolution: From the case of NiS/g-C₃N₄. *H. Zhang, Y. Dong, G. Wang, P. Jiang*

1:40 CATL 280. Photocatalysis facilitated by heterojunctions in two dimensional materials. *Z. Wu*

2:10 CATL 281. The role of grain boundaries and dopants in crystalline BiVO₄ thin film solar water splitting photoanodes. *M. Liu*

2:35 Intermission.

2:45 CATL 282. Photocatalysis on quantum-sized nanoparticles. *Y. Sun*

3:15 CATL 283. Facet-dependent activity in the photocatalytic conversion of methane to methanol using bismuth vanadate. *W. Zhu, M. Shen, G. Fan, A. Yang, J. Meyer, Y. Ou, J. Fortner, M.B. Foston, Z. Li, Z. Zou, B. Sadler*

3:40 CATL 284. Construction of TiO₂ p-n homojunctions for photocatalytic applications. *X. Zhang, S. Guoqiang, Y. Chen, L. Pan, L. Wang, J. Zou*

4:00 CATL 285. Passivated porous m-BiVO₄/m-Bi₂V₂O₁₁ nanocomposite for highly efficient water oxidation. *H. Ren, T. Ditttrich, C. Zhao, C.C. Sorrell*

4:20 CATL 286. Visible light photocatalysis mechanism on designed O/Ba co-functionalized amorphous carbon nitride. *F. Dong, W. Cui, Y. Sun*

4:40 CATL 287. Improvement of visible light response photoanode ZnIn₂S₄ based on bandgap engineering with metal co-doping. *I. Tateishi, M. Furukawa, M. Inoue, H. Katsumata, S. Kaneco*

SECTION E

Renaissance Boston Waterfront

Atlantic Ballroom 3

New Vistas in Heterogeneous Catalysis: Symposium in honor of Robert Grasselli

D. Buttery, W. A. Goddard, A. F. Volpe, *Organizers, Presiding*

1:00 CATL 288. Memories of Robert K. Grasselli at SOHIO – A visionary and revered mentor. *J. Bartek*

1:35 CATL 289. Mechanisms of selective oxidation and ammoxidation catalysis: A tribute to the legacy of R. K. Grasselli. *J.D. Burrington*

2:10 CATL 290. Thin films as model materials in catalysis: A perspective at the atomic level. *H. Freund*

2:45 Intermission.

3:05 CATL 291. Metal-decorated metal-organic frameworks active for propane functionalization: A combined computational and experimental study. *L. Gagliardi*

3:40 CATL 292. Phase transitions on the surface of alkane oxidation catalysts. *A. Trunschke*

4:15 CATL 293. Energy and economic metrics for evaluating chemical processing technologies associated with oxidative dehydrogenation: Ethylene case study. *A. Gaffney*

4:50 Concluding Remarks.

SECTION F

Renaissance Boston Waterfront

Mediterranean

Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level

W. Huang, F. Tao, *Organizers*

C. Tsung, *Organizer, Presiding*

N. Fang, *Presiding*

1:00 CATL 294. Hydrogen production without CO₂: Experiments and computations. *D. Upham, C. Palmer, J. Zeng, S. Su, V. Agarwal, H.H. Kristoffersen, M.J. Gordon, E.W. McFarland, H. Metiu*

1:30 CATL 295. Surface acidity of atomic dispersed aluminum species in silica for sustainable fuels and chemicals production. *J. Huang, Z. Wang*

2:00 CATL 296. Elucidating the chemical nature of single-site catalysts from first principles. *A.J. Hensley, A. Therrien, M. Marcinkowski, R. Zhang, K. Groden, F.R. Lucci, B. Coughlin, A. Schilling, E.H. Sykes, J. McEwen*

2:30 CATL 297. Atomically-dispersed Re sites via an anhydrous perhenate grafting strategy for high activity olefin metathesis catalysts. *S.L. Scott*

3:00 Intermission.

3:10 CATL 298. Shape matters: Oxide nanocrystals as catalysts and catalyst supports. *Z. Wu*

3:40 CATL 299. In situ quantitative study of nanoconfinement effects in heterogeneous catalysis at the single-molecule and single-particle level. *N. Fang, W. Huang, B. Dong, Y. Pei*

4:10 CATL 300. Intermetallics enable rational control of catalytic active site nuclearity and composition. *A. Dasgupta, H. He, E. Zimmerer, M. Janik, R.M. Rioux*

4:40 CATL 301. Rhodium copper for selective C-H activation at the single-atom limit. *R.T. Hannagan, E.H. Sykes*

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Biochars & Renewable Carbons

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

Novel Catalytic Materials

Frontier Catalysts Progress

Sponsored by ENFL, Cosponsored by CATL

Novel Catalytic Materials

Frontier Catalysts Progress

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TUESDAY EVENING

SECTION A

Boston Convention & Exhibition Center

Exhibit Hall B2/C

General Catalysis

K. K. Ramasamy, D. E. Resasco, F. Tao, *Organizers*

6:00 – 8:00

CATL 302. New phase-separable polyisobutylene palladium catalysts for Buchwald-Hartwig amination reaction. *E.P. Sliwinski, J. Balogh, A.R. Hill, I. El-Zoghbi, M. Ghufiran Rafique, D. Chouikhi, M. Al-Hashimi, H.S. Bazzi*

CATL 303. Facile synthesis of 3D flower-like Ni₂P composed by nanoplates towards electrochemical water splitting. *H. Zheng, X. Huang, G. Wang*

CATL 304. Development of a novel Pd based heterogeneous catalyst for catalytic reduction of CO₂ by H₂. *Q. Zhao, C. Zhang*

CATL 305. Catalytic reduction of CO₂ by H₂ to value-added products over novel Pd-Pt based heterogeneous catalysts. *A. Salzano, C. Zhang*

CATL 306. A novel Fe based heterogeneous catalyst for carbon dioxide catalytic conversion to value-added products. *A. Tripoli, C. Zhang*

CATL 307. A novel Co-Ni based heterogeneous catalyst for catalytic reduction of CO₂ by H₂ to value-added products. *C. Velasquez, C. Zhang*

CATL 308. Converting carbon dioxide to value-added products over a novel palladium based catalyst supported on iron oxide. *T. Reid, C. Zhang*

CATL 309. Development of a novel Ni-polyoxometalate based heterogeneous catalyst for carbon dioxide conversion to value-added products. *M. Mohtarami, C. Zhang*

CATL 310. Strongly reducing organic photoredox catalysts for small molecule and macromolecular synthesis. *B. Buss, G. Miyake*

CATL 311. Solvent effect in the efficiency of V- and Ce-incorporated MCM-41 for liquid phase oxidation of benzyl alcohol. *C.M. Aiube, J.L. de Macedo*

CATL 312. Photodecomposition of liquids in carbon dioxide enriched environment by nanostructured cobalt catalyst. *E. Farrell, D.K. Ryan, K. Davies*

CATL 313. Synthesis and research of metal-organic frameworks materials based on the nitrogen and carboxylic acid ligands. *D. Sheng*

CATL 314. Mesoporous manganese oxide catalyzed aerobic oxidation of alkyl arenes to carbonyl compounds. *D. Rathnayake, S.L. Suib*

CATL 315. Double donor Sb_{5s} doped hematite (Fe³⁺) photoanodes for surface-enhanced PEC water splitting. *A. Annamalai, R. Sandström, E. Gracia Espino, N. Boulanger, J. Boily, I. Muehlfacher, T. Wagberg*

CATL 316. Efficient catalytic oxidation of aldehydes to carboxylic acids in the presence of Zn doped MCM-41. *E. Pimentel Martínez, D. Perez Martínez, L. Lomas Romero, G. Negron Silva, D. Angeles Beltrán*

CATL 317. Study of protein and peptide-directed nanoparticle synthesis for catalytic materials. *A. Mosleh, R. Beitle, M. Beyzavi*

CATL 318. Characterization and photophysical properties of porphyrins based metal organic framework (RWLCAA-1) obtained by self-assembly of zinc 5,10,15,20-tetra(4-pyridyl)-21H,23H-porphine. *A. Alanazi, R.W. Larsen*

CATL 319. Methane decomposition for the production of CO_x-free hydrogen and carbon nanotubes over transition metal aerogel catalysts. *B. Bao, I. Wang, T. Haines, L. Ren, H. Tian, J. Hu*

CATL 320. Applications of microwave plasma catalysis. *A.M. Caiola, S. Tiwari, X. Bai, A.D. Lalsare, J. Hu*

CATL 321. Stability of Fe and Zn promoted Mo/ZSM-5 catalysts for ethane dehydroaromatization in cyclic operation mode. *B. Robinson, X. Bai, V. Abdelsayed, D. Shekhawat, J. Hu*

CATL 322. Direct conversion of methane to methanol using supported Pt/CeO₂ catalysts. *H. Park, S. Kye, K. Lee, H. Suh, J. Kim, N.H. Hur*

CATL 323. Catalyst screening for the depolymerization of alkali lignin in the presence of subcritical water. *B. Jadhav, R. Roy, D.E. Raynie*

CATL 324. Coke resistance in dry reforming of methane over supported Ni-In catalysts under high-pressure conditions. *H. Dang, S. Roshandel, A. Goepfert, N. Entesari, S.G. Prakash*

CATL 325. Interface engineering for a poison-free CO oxidation by Pt@Cu core@shell nanoparticles. *K. Shin, L. Zhang, H. An, H. Ha, G.A. Henkelman, H. Kim*

CATL 326. In-situ near-ambient pressure X-ray photoelectron spectroscopy studies of the catalytic and gas sensing properties of copper and tin oxides. *M. Vorokhta, I. Khalakhan, P. Hozák, M. Novotný, J. Vlcek, P. Fitl, M. Vondráček, J. Lančák, V. Matolin*

CATL 327. Methane pyrolysis for carbon nanotubes and CO₂-free H₂ over transition metal catalysts. *I. Wang, D. Ayillath Kutteri, B. Bao, E. Chia, H. Tian, J. Hu*

CATL 328. Metal-organic framework host/guest photocatalysts for CO₂ reduction. *J. Martin*

CATL 329. Understanding the dynamics of ceria-based catalysts using *in situ* transmission electron microscopy (TEM). *J. Sung, B. Choi, B. Kim, J. Park*

CATL 330. Parametric study on production capacity of fluid catalytic cracking (FCC) reactor using ASPEN HYSYS as a simulating tool and zeolite as catalyst, a case study of Kaduna Refining and Petrochemical Company (KRPC) FCC reactor. *J.O. Olujinmi, G. Olugbenga*

CATL 331. Two-dimensional Zn₂Cd_{1-x}S solid solution nanosheets for highly efficient visible-light-driven hydrogen generation. *J. Lu, J. Shi*

CATL 332. Synthesis of cerium doped CuMgAl mixed metal oxides and utilizing their properties for enhanced visible light photocatalysis. *K. Goswami, R. Ananthkrishnan*

CATL 333. Examination of catalytic hydrolysis of a methylparaoxon (MPO) nerve-agent simulant with intrinsically controlled UiO-66 in particle size and defect site density. *K. Baek, K. Cho*

CATL 334. Concave Bi₂WO₆ nanoparticles with oxygen vacancies achieving enhanced electrocatalytic and photocatalytic activities. *M. Dekun*

CATL 335. Nickel nanoparticles as electrocatalyst for methanol oxidation reaction produced under galvanostatic control. *M.P. Salinas, M. Videa, D.A. Crespo-Yapur*

CATL 336. Insights from molecular dynamics simulations of substrate binding in a pH-affected fungal beta-glucosidase. *M. Solhtalab, D. Flannelly, L. Aristilde*

CATL 337. Hydrodeoxygenation pathways on the bimetallic phosphide catalysts. *V. Jain, N. Rai*

CATL 338. Electrochemical difunctionalization of alkenes. *N. Fu*

CATL 339. In situ FTIR determination of surface adsorption species over bimetallic alloy catalysts in catalytic oxidation of carbon monoxide. *R. Robinson, D. Caracciolo, S. Shan, S. Wang, J. Luo, C. Zhong*

CATL 340. Probing hydrogen nanobubble evolution at single catalytic sites on polycrystalline platinum and gold surfaces. *R.T. Perera, C.E. Arcadia, J. Rosenstein*

CATL 341. Urea H-bond donating catalysts for ring-opening polymerization of lactones: Mechanistic insights via Hammett relationship. *R.S. Hewawasam, J.U. Pothupitiya, M.K. Kiesewetter*

CATL 342. Low temperature electrocatalytic carboxylation of aryl halides via platinum-decorated graphene nanoplatelet electrodes. *S. Ghobadi, S. Smith, S.E. Gilliland, C.E. Castano, T. Roper, F. Gupton*

CATL 343. Microwave-assisted catalytic synthesis of ammonia from CH₄ and N₂ under ambient pressure. *S. Tiwari, X. Bai, J. Hu*

CATL 344. Configuration dependent adsorbate interactions study using support vector machine model. *S. Zhengjiang*

CATL 345. Low temperature ethylene oxidation over Pt supported hydrophobic mesopores of SBA-15. *S.S. Satter, K. Nakajima, A. Fukuoka*

CATL 346. Synthesis, characterization of benzyl sulphonic acid functionalized MCM-41 and its catalytic application in preparation of Cl-20 via HNO₃ electrolyte involved nitration of TAIW. *S. Chen, C. Yang, H. Qian, D. Liu*

CATL

CATL 347. Intramolecular reactions of alkyne-acids using a gold functionalized cavitand. *T.D. Ho, M. Schramm*

CATL 348. Novel and selective palladium (II) OCO pincer catalysts for the α -arylation of ketones. *W. Kai, H. Qian, Z. Ye, D. Liu*

CATL 349. Steerable transition of Ru(0001)/FeO(111) through reduction by hydrocarbons. *W. Rong, K. Wu*

CATL 350. Facile approach for the oxidation of aniline to nitrosobenzene using mesoporous W/Ti mixed metal oxide. *W. Thalaspitiya, T. Premalal, S.L. Suib*

CATL 351. A novel biphosphine ligands with Fe-center promoted rhodium-catalyzed hydroformylation of vinyl acetate to give *n*-product. *X. Xu, J. Jiang, D. Liu, H. Feng*

CATL 352. Reduction of nitric monoxide studied by in situ modulation excitation IR spectroscopy. *X. Wang, N. Maeda*

CATL 353. Selective oxidation of olefins to ketones over palladium supported on reduced graphene oxide. *X. Peng, X. Gao*

CATL 354. Benzyl alcohol selective oxidative dehydrogenation over supported gold nanoparticle catalysts: A density functional theory study. *Z. Wang, X. Gong*

CATL 355. Selective ethylene tetramerization with activated metal-organic framework MIL-100(Fe). *Y. Han, Y. Zhang, X. Guang, X. Liu, G. Feng*

CATL 356. Biomass derived acetic acid hydrodeoxygenation over Pt-based bimetallic catalysts. *Y. Zheng, S.G. Podkolzin*

CATL 357. Perovskite CsPbBr₃ nanocrystals as efficient photocatalyst for synthesis of 1,3,5-trisubstituted pyrazoles and 2,5-diaryl-substituted pyrroles via visible light illumination. *Y. Lin, Y. Sun, X. Zhu, Y. Yan*

CATL 358. Identifying the role of photogenerated holes in photocatalytic methanol dissociation on rutile TiO₂(110). *Z. Jiawei, H. Wang, P. Hu*

WEDNESDAY MORNING

SECTION A

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G*

Hybrid Biological & Chemocatalytic Processes for Biomass Upgrading

K. K. Ramasamy, D. Vardon, *Organizers, Presiding*
8:00 Introductory Remarks.

8:10 **CATL 359.** Active site requirements for upgrading biologically-derived platform molecules. *H. Abdulrazzaq, T.J. Schwartz*

8:40 **CATL 360.** Directed evolution of oxalate decarboxylase for the enhancement of a hybrid enzymatic and organic electrolytic cascade. *V. Russell, S. Abdellaoui, S.D. Minter*

9:00 **CATL 361.** Atomic layer deposition with Al₂O₃ for enhanced Pd/TiO₂ stability during biobased adipic acid production. *D. Vardon, A. Settle, N. Cleveland, X. Huo, A. York, A. Devaraj, E. Kautz, K.K. Ramasamy, G. Beckham, M. Griffin, K.E. Hurst, C. Farberow, E. Tan, S. Christensen*

9:20 Intermission.

9:40 **CATL 362.** Mechanistic understanding of C-C bond formation and O removal over Lewis acid-base pairs. *H. Li, J. Sun, Y. Wang*

10:10 **CATL 363.** Experimental and computational studies on catalytic upgrading of biochemical intermediates from biomass. *J. Alegre-Requena, S. Kim, A. Settle, J. Stunkel, D. Robichaud, D. Vardon, D.K. Johnson, R. Paton*

10:30 **CATL 364.** Mild pretreatment conditions resulting in reduced impurities, lower acidity, and high furan yields from biomass using heterogeneous catalysts. *J. Romo, T. Wu, J. Lucero, M.A. Carreon, S. Wettstein*

SECTION B

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H*

Fundamental Understanding of Catalysis at Interface through Computational Approach Electrochemical & Photoelectrochemical Synthesis

D. Jiang, *Organizer*
T. Taketsugu, S. R. Waldvogel, *Presiding*

8:00 **CATL 365.** Fundamental investigations of electrocatalyzed transformations of organic compounds. *S.A. Akhade, M. Lee, N. Singh, U. Sanyal, O.Y. Gutiérrez, J. Lercher, V. Glezakou, R. Rousseau*

8:20 **CATL 366.** Direct oxidative functionalization of alcohols at electrode surfaces. *K. Manthiram*

9:00 **CATL 367.** The atomistic description of the electrolyte at the electrode-electrolyte interface (EEI). *W.A. Goddard, A. Fortunelli, T. Cheng*

9:40 Intermission.

10:00 **CATL 368.** High-potential porphyrins supported on semiconductor surfaces for photoelectrochemical applications. *C.A. Schmuttenmaer, R.H. Crabtree, G.W. Brudvig, V.S. Batista*

10:40 **CATL 369.** Carbon-based catalytic materials for energy conversion. *J. Chen*

11:20 **CATL 370.** Selective reforming of methane to CO by photoelectrochemical reactions on TiO₂. *D. Wang, W. Li, D. He, M. Waegle, D. Jiang, G.W. Brudvig*

SECTION D

*Renaissance Boston Waterfront
Atlantic Ballroom 2*

Advanced Catalytic Materials with Well-Defined Nanostructures for Energy & Fuel Sustainability

A. Orlov, *Organizer*

D. Su, S. Zhang, *Organizers, Presiding*

8:00 **CATL 371.** Nanostructured multi-component oxide catalysts for low-temperature CO oxidation. *S. Dai*

8:30 **CATL 372.** Bimetallic catalyst with a core-shell structure for CO₂ reduction. *F. Jiao, W. Lu, M. Jouny*

9:00 **CATL 373.** Promoting effects of hydrothermal treatment on catalytic performance of Pd/CeO₂ for CO Oxidation. *H. Jeong, H. Lee*

9:20 **CATL 374.** Manganese promoter effects in carbon-supported copper-based ester hydrogenation catalysis. *R. Beerthuis, N. Visser, J. Deeley, G. Sunley, K. De Jong, P. de Jongh*

9:40 **CATL 375.** Green application of hydrogenation catalyst YN-1 on C₄ and C₅ cut. *Z. Du*

10:00 **CATL 376.** Insights for catalyst design: Using well-defined metal oxide nanocrystals to elucidate structure-activity relationships. *P.A. Pepin, J.M. Vohs*

10:20 Intermission.

10:30 **CATL 377.** Understanding and tuning catalytic materials using well-defined nanocrystal precursors. *M. Cargnello, J. Willis, E.D. Goodman, C. Wrasmann, A. Yang, F. Abild-Pedersen, S. Bare*

11:00 **CATL 378.** Preparation of Ni@Siicalite-2 as a high stability catalyst for dry reforming of methane. *Y. Lu, Y. Zhao, X. Ma, S. Wang*

11:20 **CATL 379.** Nanotube-assembled hollow sphere nanoreactor for dimethyl oxalate hydrogenation to ethylene glycol: The morphology effect. *D. Yao, Y. Wang, Y. Zhao, X. Ma*

11:40 **CATL 380.** Dry reforming of methane over organized mesoporous alumina materials derived from EISA and MOF routes. *L. Karam, J. Reboul, S. Casale, N. El Hassan, P. Massiani*

SECTION E

*Renaissance Boston Waterfront
Thompson*

Water (The Greenest Solvent): Catalysis in Aqueous & Bi-Phase Systems

Influence of Water on Heterogeneous Catalysts

J. Faria, F. Neira Dangelo, *Organizers, Presiding*
8:00 Introductory Remarks.

8:05 **CATL 381.** Initial particle size effects on the stability of nickel catalysts in aqueous conditions. *H. Bitter, T. van Haasterecht, M. Swart, K. De Jong*

8:25 **CATL 382.** Trends in activity and stability of supported Ru during aqueous-phase hydrogenation of levulinic acid. *J. Bond*

8:55 **CATL 383.** Watching solid catalysts at work in the liquid phase. *D. Ferri*

9:25 **CATL 384.** Continuous synthesis of DMC from CO₂ and methanol over CeO₂ using 2-cyanopyridine as dehydrating agent: Catalyst stability and the reaction mechanism. *A. Urakawa*

9:55 **CATL 385.** Molecular simulations for calculating the free energies of adsorption and reaction in aqueous phase heterogeneous catalysis. *X. Zhang, T. Xie, R.B. Getman*

10:25 Intermission.

10:40 **CATL 386.** Understanding the role of solvent effects in the thermal and electrochemical hydrogenation of organics. *S.A. Akhade, M. Lee, M. Nguyen, V. Glezakou, R. Rousseau*

11:10 **CATL 387.** Controlling mass transport at electrocatalytic interfaces: Towards air-based water splitting devices. *M.A. Modestino*

11:40 **CATL 388.** Multicatalytic, light-driven polymerization of phenols for flocculation of wastewater impurities. *G. Hafenstine, R.E. Patalano, O. Yehezkeili, K. Ma, A.P. Goodwin, J.N. Cha*

SECTION F

*Renaissance Boston Waterfront
Mediterranean*

Meeting the Challenges of Heterogeneous Catalysis Controlled at Atomic Level

F. Tao, *Organizer*

W. Huang, C. Tsung, *Organizers, Presiding*

8:00 Introduction Remarks.

8:05 **CATL 389.** Novel preparation of reverse model catalyst, FeO/Pt(111), for CO oxidation and H₂O dissociation. *R. Paul, R.G. Reifemberger, T. Fisher, D. Zemlyanov*

8:25 **CATL 390.** Multidimensional scaling of catalyst performance: From UHV to operating conditions. *C. Reece, E. Redekop, S.G. Karakalos, R.J. Madix*

8:45 **CATL 391.** Mimicking phosphotriesterase enzyme via engineering defects in metal-organic frameworks. One step closer to achieving more robust and reactive heterogeneous catalysts for detoxification of chemical warfare agents. *M. Momeni, C.J. Cramer*

9:05 **CATL 392.** Single-site supported metal complexes: Tunable catalytic performance with ionic liquid coatings. *M. Babucci, C. Fang, A.S. Hoffman, S. Bare, B.C. Gates, A. Uzun*

9:25 **CATL 393.** An atomic-scale study of oxygen dissociation on Ag on Cu(111). *L. Cramer*

9:45 **CATL 394.** Facile chemical approach to regio control synthesis of gold-BINOL hybrid nanostructures. *P.R. Reddy*

10:05 Intermission.

10:15 **CATL 395.** Surface structure and reactivity of Ni-Cu single-atom alloys. *D. Patel, E.H. Sykes*

10:35 **CATL 396.** From single atoms to clusters, manipulating CO₂ reduction pathways on Rh catalysts. *Y. Zhu, O.Y. Gutiérrez, J. Fulton, L. Kovarik, J. Szanyi, J. Lercher*

10:55 **CATL 397.** X-ray emission spectroscopy studies of metal-organic frameworks. *J.V. Lockard*

11:15 **CATL 398.** Single-atom catalyst of platinum supported on MnO₂ for catalytic decomposition of caproaldehyde at room temperature. *H. Zhang, P. Zhang*

11:35 **CATL 399.** Molecular level characterization of 1:1 chiral docking on Cu(111). *A. Larson, R. Hannagan, E.H. Sykes*

10:55 **CATL 397.** X-ray emission spectroscopy studies of metal-organic frameworks. *J.V. Lockard*

11:15 **CATL 398.** Single-atom catalyst of platinum supported on MnO₂ for catalytic decomposition of caproaldehyde at room temperature. *H. Zhang, P. Zhang*

11:35 **CATL 399.** Molecular level characterization of 1:1 chiral docking on Cu(111). *A. Larson, R. Hannagan, E.H. Sykes*

Catalysis for Environmental & Energy Applications

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WEDNESDAY AFTERNOON

SECTION A

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G*

Hybrid Biological & Chemocatalytic Processes for Biomass Upgrading

K. K. Ramasamy, D. Vardon, *Organizers, Presiding*

1:00 **CATL 400.** Electrochemical energy upgrading of lignin to fuels and chemicals: A path to organic reaction discovery? *J.E. Jackson, P. Hao, G. Klinger, Y. Zhou, E.L. Hegg, S. Christopher*

1:30 **CATL 401.** Effects of impurities in two-step vs. one-step hydroprocessing of algae oils. *J. Kruger, E. Christensen, T. Dong, G. Chupka, P.T. Pienkos, R.L. McCormick*

1:50 **CATL 402.** Multi-functional mixed oxide catalysis in cascade chemistry to convert ethanol to C₅+ ketones. *K.K. Ramasamy, M. Guo, M. Gray, S. Subramaniam*

2:10 Intermission.

2:25 **CATL 403.** Biological valorization of aqueous waste carbon from catalytic fast pyrolysis. *G. Beckham, B.A. Black, M. Franden, L.N. Jayakody, C.W. Johnson, A. Meyers*

2:55 **CATL 404.** A kinetic analysis of selective carboxylic hydrodeoxygenation over supported Pt and Ru catalysts. *J. Bond, J. Gopeesingh*

3:15 **CATL 405.** Active surface and mechanism for propionic acid reduction over RuSn. *V. Vorotnikov, T. Eaton, A. Settle, K. McKinney, E. Wagner, C. Yang, J.T. Miller, G. Beckham, D. Vardon*

3:35 **CATL 406.** The hyper-thermophilic and catalytic mechanism of extremophile cellulase TmCel12A. *P. Lian, H. Guo, J. Smith*

3:55 Concluding Remarks.

SECTION B

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon H*

Fundamental Understanding of Catalysis at Interface through Computational Approach Interfaces for Thermal Catalysis

D. Jiang, Organizer

C. T. Campbell, F. Zaera, Presiding

1:00 CATL 407. Designing heterogeneous alloy catalysts from first principles and surface science. *E.H. Sykes, M. Stamatakis, M. Flytzani-Stephanopoulos, A. Michaelides, T. Thuening*

1:40 CATL 408. Au-TiO₂ interfaces in the catalysis of low-temperature oxidation and H₂ photoproduction from water. *F. Zaera*

2:20 CATL 409. Electride-based catalysts for ammonia synthesis at mild conditions. *H. Hosono*

2:40 Intermission.

2:50 CATL 410. Mechanistic understanding of methanol carbonylation: Interfacing homogeneous and heterogeneous catalysis via carbon supported Ir-La. *A.J. Hensley, J. Zhang, I. Vinco, X. Pereira-Hernandez, D. Tranca, G. Seifert, J. McEwen, Y. Wang*

3:30 CATL 411. Where computational catalysis meets experiment. *C.T. Campbell, Z. Mao*

4:10 CATL 412. Strong metal-support interaction (SMSI): An extension from oxide support to carbide and nitride. *J. Dong, Q. Fu, X. Bao*

4:50 CATL 413. Elucidating active VO_x/TiO₂ surfaces for lignin oxidation using model compounds. *V. Vorotnikov, A. Robinson, G. Beckham*

SECTION C

Renaissance Boston Waterfront

Atlantic Ballroom 1

Operando Spectroscopy for Catalysis

J. J. Bravo-Suarez, Organizer, Presiding

1:00 CATL 414. Operando vibrational spectroscopy during selective catalytic reduction of NO with NH₃ by VO_x/TiO₂ catalysts. *I.E. Wachs, M. Zhu, J. Lai, Z. Wu*

1:30 CATL 415. Operando spectroscopy: Transients, cells, hyphenation. *D. Ferri*

1:55 CATL 416. Space- and time-resolved operando spectroscopic studies of heterogeneous catalysts under unsteady-state operations. *A. Urakawa*

2:20 CATL 417. Developing a Raman-spectrokinetic approach to gain insights into the structure-reactivity relationship of supported metal oxide catalysts. *C.A. Carrero, J. Moncada*

2:45 CATL 418. Shining light on catalysts at work: Multi-wavelength and time-resolved operando Raman spectroscopy. *C. Hess*

3:10 Intermission.

3:20 CATL 419. On the genesis of early transition metal carbide and nitride supported metal catalysts. *W. Wen, Z. Wang, L.T. Thompson*

3:45 CATL 420. Monitoring catalyst composition during synthesis and pretreatment with in situ spectroscopy. *F.E. Celik, A. Pennington, G. Tsilomelekis*

4:10 CATL 421. What can operando Cu K-edge XAS tell us about the mechanism and active sites in the selective conversion of methane to methanol by Cu/Zeolites and silica or alumina-supported well-defined Cu-sites? *M. Newton, A.J. Knorpp, J. Meyet, V. Sushkevich, D. Palagin, A.B. Pinar, C. Coperet, J. van Bokhoven*

4:35 CATL 422. Non-Innocent Solvents, Hydrogen Transfer, Oxygen Dissociation on Nanoparticles during the Direct Synthesis of H₂O₂. *J. Adams, N. Wilson, P. Priyadarshini, A. Chemburkar, Y. Lu, A.M. Karim, M. Neurock, D. Flaherty*

5:00 CATL 423. In situ/operando spectroscopy and DFT studies of OCM catalyst electronic/molecular structure. *D. Kiani, S. Sourav, I.E. Wachs, J. Baltrusaitis*

SECTION D

Renaissance Boston Waterfront

Atlantic Ballroom 2

Advanced Catalytic Materials with Well-Defined Nanostructures for Energy & Fuel Sustainability

A. Orlov, Organizer

D. Su, S. Zhang, Organizers, Presiding

1:00 CATL 424. Catalytic water oxidation over graphene-supported cobalt catalysts. *M. Zhafer*

1:20 CATL 425. Hydrophilic-hydrophobic dual catalyst layer electrode for proton exchange membrane fuel cells under low humidity. *C. Roh, J. Choi, H. Lee*

1:40 CATL 426. Intermetallic core/shell L₁₀-FePt/Pt nanoparticles for efficient oxygen reduction reaction in fuel cells. *S. Sun, J. Li*

2:10 CATL 427. Structural behavior of shaped alloy during electrocatalysis. *C. Cui*

2:40 Intermission.

3:00 CATL 428. Atomically precise metal nanoclusters for water splitting and CO₂ reduction. *D. Jiang*

3:30 CATL 429. Materials design on highly efficient water splitting catalysis. *S. Guo*

4:00 CATL 430. Physical and chemical tuning of catalysts for water splitting and fuel cell electrocatalysis. *H. Wang*

4:30 CATL 431. Advanced nano-engineered oxygen electrocatalysts for fuel cells and batteries. *Z. Chen*

SECTION E

Renaissance Boston Waterfront

Thompson

Water (The Greenest Solvent): Catalysis in Aqueous & Bi-Phase Systems Transport & Reactions in Liquid-Solid & Gas-Liquid-Solid Systems

J. Faria, F. Neira Dangelo, Organizers, Presiding

1:00 Introductory Remarks.

1:05 CATL 432. Stimuli responsive partitioning in aqueous two-phase systems and opportunities for catalyst recycling. *B. Schuur*

1:35 CATL 433. Catalytic induced flow: Increasing production by using less catalyst. *A. Visan, R.G. Lammertink*

2:05 CATL 434. Towards improving reactor performance through combined monitoring and modelling of multiphase flows. *K. Buist, J. Kuipers*

2:35 CATL 435. Mass transfer inside porous catalyst bodies in liquid phase operation. *L. Lefferts, P. Xu, R. Espinosa, S. Agarwal, F. Mugele*

3:05 CATL 436. Limitations of heat and mass transfer processes in reactive gas-liquid-solid systems. *M. Baltussen*

3:35 Intermission.

3:50 CATL 437. Acceptorless dehydrogenative cyclization for the synthesis of heterocycles in water catalyzed by a water-soluble metal-ligand bifunctional catalyst. *F. Li*

4:10 CATL 438. Polyphenylene as an exceptional catalyst platform for cross coupling and hydration at water-oil interface. *F.R. Wang*

4:40 CATL 439. Water microdroplets catalyze chemical reactions. *J. Lee, H. Nam, R.N. Zare*

WEDNESDAY EVENING

Catalysis for Environmental & Energy Applications

Sponsored by ENVR, Cosponsored by CATL

THURSDAY MORNING

SECTION A

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon G

General Catalysis

K. K. Ramasamy, D. E. Resasco, F. Tao, Organizers

K. Lin, J. A. Lopez-Ruiz, Presiding

8:00 CATL 440. Heterogeneously catalyzed hydration of alkenes by tin-molybdenum mixed oxide. *D. Rathnayake, S.L. Suib*

8:20 CATL 441. "Green" route for the alkylation of cyclohexene using mesoporous molybdenum oxide. *W. Thalgaipitiya, T. Premalal, S.L. Suib*

8:40 CATL 442. Pathways mediating byproduct formulation in partial oxidation of acrolein to acrylic acid. *J.H. Miller, A. Bhan*

9:00 CATL 443. Investigating the acid site distribution of a new generation methyl chloride synthesis catalyst. *D. Lennon, J. Winfield*

9:20 CATL 444. In situ DRIFTS investigation of the interactions between methanol and ceria nanoparticles as a function of temperature. *P. Huttunen, S. Martell, M.C. Foster*

9:40 Intermission.

10:10 CATL 445. Evaluating the positive role of water on solid acid catalyzed reactions. *S. Crossley*

10:50 CATL 446. Photoreactions of monolayer MoS₂ in ambient conditions. *B. Birmingham, J. Yuan, M. Fiez, D. Fu, J. Hu, M.O. Scully, J. Lou, B.M. Weckhuysen, Z. Zhang*

11:10 CATL 447. NiAu single atom alloys for the oxidative coupling of methacrolein with methanol. *A. Trimpalis, G. Giannakakis, M. Flytzani-Stephanopoulos*

11:30 CATL 448. Benzylamine homo coupling by ordered mesoporous nano-cobalt oxide: Relationship to the mammalian monoamine oxidase. *T. Premalal, W. Thalgaipitiya, S.L. Suib*

11:50 CATL 449. In operando FTIR spectroscopy of challenging to monitor catalytic reactions. *J. Speed*

SECTION B

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon H

Fundamental Understanding of Catalysis at Interface through Computational Approach Novel Materials & Interfaces

D. Jiang, Organizer, Presiding

A. Vojvodic, Presiding

8:00 CATL 450. Designing metal and 2D-material interfaces for active and stable single atom catalysts. *V. Fung, Z. Wu, D. Jiang*

8:20 CATL 451. Fundamental understanding of optimal interlayer spacing of MoS₂ catalysts for hydrogen evolution reaction. *Q. Jin, N. Liu, B. Chen, D. Mei*

8:50 CATL 452. Influence of surface adsorbate interactions on the reaction kinetics of methanol synthesis from CO₂ hydrogenation. *P. Wu, B. Yang*

9:10 CATL 453. Reaction mechanisms of dry reforming of methane on nickel. *W. Lin, G.C. Schatz*

9:30 Intermission.

9:40 CATL 454. Tailoring interface and surface in metal-support microenvironment for catalysis. *H. Zhu, Z. Wu, S. Dai*

10:15 CATL 455. C-H bond activation at ceria-supported vanadia clusters. *T. Kropp, J.A. Paier, J. Sauer*

10:35 CATL 456. Free energy surfaces for the Volmer reaction. *Y. Lam, Z. Goldsmith, A. Soudackov, S. Hammes-Schiffer*

11:05 CATL 457. Computational studies of alkanol catalysis on SrTiO₃ perovskite surfaces. *R.C. Chapleski, S. Roy*

11:25 CATL 458. H₂ adsorption on Pd/Ag(111) studied with STM, XPS, and DFT. *M. van Spronsen, K. Duanmu, P. Sautet, C.M. Friend*

11:45 CATL 459. Efficient increase in CO oxidation activity of Pt catalysts stabilized at CeO_x/TiO₂ interface: Combinatorial study of theory and experiment. *M. Yoo, H. Ha, S. Lee, J. Choi, E. Kang, C. Kim, W. Jung, H. Kim*

12:05 CATL 460. High-surface-area, intelligent Ni catalysts prepared by atomic layer deposition. *C. Lin*

SECTION C

Renaissance Boston Waterfront

Atlantic Ballroom 1

Operando Spectroscopy for Catalysis

J. J. Bravo-Suarez, Organizer, Presiding

8:00 CATL 461. Time-resolved XAFS spectroscopy uncovers multiple roles of the Ce⁴⁺/Ce³⁺ redox couple in the mechanism of low temperature CO oxidation. *O.V. Safonova, R. Kopelent, J. van Bokhoven, M. Nachtegaal*

8:25 CATL 462. Infrared absorption spectroscopy in operando studies of catalytic reactions. *F. Zaera*

8:50 CATL 463. Carbocation chemistry on solid acid catalysts observed by in situ spectroscopy. *F. Jentoft*

9:15 CATL 464. CO adsorption and reaction on catalytic surfaces: examples of reaction intermediates, spectator species and alloy segregation triggered by CO dissociation. *F.C. Meunier, Y. Schuurman, N. Guilhaume, L. Cardenas*

9:40 CATL 465. In-situ/operando study of ceria supported Ru and Ru alloys: Identifying the catalytic active structure for methane dry reforming. *Z. Liu, S.D. Senanayake*

10:05 Intermission.

10:15 CATL 466. Kinetic analysis of methane dry reforming on Rh in operando-Raman annular reactor. *G. Maroni, A. Donazzi, M. Maestri*

10:40 CATL 467. In situ ATR-IR studies in aqueous phase reforming of hydroxyacetone on Pt catalysts. *K. Koichumanova, R. Cortese, M. Argyle*

11:05 CATL 468. Operando UV-visible spectroscopy of high temperature water gas shift catalysis. *B. Hallac, J.C. Brown, E. Stavitski, R.G. Harrison, M. Argyle*

11:30 CATL 469. Mapping the reverse water-gas shift reaction network over oxide-based catalysts using operando SSITKA coupled with time-resolved IR spectroscopy. *N.C. Nelson, M. Nguyen, V. Glezakou, R. Rousseau, J. Szanyi*

11:55 CATL 470. Operando spectroscopy of polymer electrolyte fuel cells. *E.S. Smotkin, J.H. Doan, N. Loupe, J. Goulart*

SECTION D

Renaissance Boston Waterfront

Atlantic Ballroom 2

Advanced Catalytic Materials with Well-Defined Nanostructures for Energy & Fuel Sustainability

A. Orlov, Organizer

D. Su, S. Zhang, Organizers, Presiding

CATL/CELL

8:00 CATL 471. Advanced architectures of nanostructured electrocatalysts guided by well-defined surface studies. *N. Becknell, P. Papa Lopes, H. Lv, E. Coleman, D. Strmcnik, N.M. Markovic, V. Stamenkovic*

8:30 CATL 472. Stabilizing M (Fe, Co) by intermetallic L₁₀-MPt and enhanced oxygen reduction reaction catalysis in core/shell L₁₀-MPt/Pt for fuel cells. *J. Li, S. Sun*

8:50 CATL 473. Electrocatalysts from surface atom engineering via bulk synthesis. *Y. Shao*

9:20 CATL 474. Composition-tunable PtPdCu nanoparticle catalysts with high activity for oxygen reduction reaction. *Z. Wu, E. Hopkins, K. Park, J. Wen, J. Wang, J. Luo, V. Petkov, L. Wang, C. Zhong*

9:40 CATL 475. Fully ordered Pt₃Co intermetallic nanoparticles derived from metal-organic framework for oxygen reduction. *G. Wu*

10:10 Intermission.

10:20 CATL 476. Advanced electrocatalysts from nanostructured pyrite-type materials. *M. Gao*

10:50 CATL 477. Low overpotential for electrochemically reducing CO₂ to CO on nitrogen-doped graphene quantum dots-wrapped single crystalline gold nanoparticles. *J. Fu, J. Zhu*

11:10 CATL 478. Non-noble-metal-based electrocatalysts for water electrolysis. *S. Chen*

11:40 CATL 479. Electrocatalytic hydrodechlorination reaction on Pd-based materials and the related environmental applications. *G. Jiang*

SECTION E

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F

Water (The Greenest Solvent): Catalysis in Aqueous & Bi-Phase Systems

Tailoring Catalysts for Operating in Liquid Environments

J. Faria, F. Neira Dangelo, *Organizers, Presiding*

8:00 CATL 480. From biomass to chemicals: Swimming lessons for heterogeneous catalysts. *C. Mandelli, G.M. Lari, P.Y. Dapsens, J. Perez-Ramirez*

8:30 CATL 481. Kinetics of catalytic reduction of nitrates in water streams. Effects of catalyst deactivation and ammonia adsorption. *A. Manzoni, E. Romeo, P. Tarifa*

9:00 CATL 482. Designing supported bimetallic catalysts for selective oxidation and selective reduction reactions. *S. Meenakshisundaram, J. Edwards, Q. He, G. Hutchings*

9:40 CATL 483. Colloidal Pd nanoparticles with hydrophobic catalytic sites: Biphasic hydrogenation of olefins in water. *C. Garcia, S. Poudel, D. Ortega, Y. Shon*

10:00 CATL 484. Hydrogenation of furanics in an aqueous phase: A combined experimental and computational study. *R.M. Bababrik, Z. Zhao, D.E. Resasco, B. Wang*

10:30 CATL 485. Catalytic processes for hemicelluloses valorisation in batch and continuous modes. *L. Vilcocq, Y. Cheah, H. Oliva, E. Rebmann, P. Fongarland*

11:00 CATL 486. Stabilization of active Lewis acid metal species through intrapore condensation of alkene reactants during dimerization reactions. *I. Aguirrezabal, I. Luz, M. Soukri, M.A. Lail, M.A. Ortuno, N. Lopez, P. Arias*

11:20 CATL 487. Reactions in liquid environments - 1. *J. Faria*

11:40 CATL 488. Consecutive condensations of light oxygenates in aqueous phase over Tin-Niobium mixed oxides acid catalysts. *M.E. Domine, A. Fernández-Arroyo, J.M. López-Nieto*

SECTION F

Renaissance Boston Waterfront
Brewster

General Catalysis

K. K. Ramasamy, D. E. Resasco, F. Tao, *Organizers*
J. Kruger, D. Vardon, V. Vorotnikov, *Presiding*

8:00 CATL 489. Renewable isoprene by sequential hydrogenation of itaconic acid and dehydro-decylization of 3-methyl-tetrahydrofuran. *O. Abdelrahman, P.J. Dauenhauer*

8:20 CATL 490. In-situ synthesized SAPO-34/kaolin composite catalyst and its application in methanol to olefins. *L. Zhang*

8:40 CATL 491. Hydrophobic Ce/SBA-15 catalyst for the direct synthesis of dimethyl carbonate from CO₂ and methanol. *Y. Pu*

9:00 CATL 492. Mesoporous manganese doped cobalt oxide catalysts for selective aerobic oxidation of 5-hydroxymethylfurfural to 2,5-diformylfuran. *S. Biswas*

9:20 CATL 493. Highly efficient quinone-catalyzed aerobic dehydrogenation of N-substituted indolines to indoles. *B. Li, S.S. Stahl, A. Wendlandt*

9:40 CATL 494. Oxidase catalysis via aerobically generated hypervalent iodine intermediates. *D.C. Powers*

10:00 Intermission.

10:10 CATL 495. Effect of peptide/protein purity on biotemplated nanoparticle synthesis: Morphologies, properties, and ultimate cost. *A. Mosleh, R. Tejada, L.F. Greenlee, N. Bedford, M. Beyzavi, R. Beitle*

10:30 CATL 496. Rational design of mimic multi-enzyme systems in hierarchically porous biomimetic metal-organic frameworks. *X. Liu, W. Qi, Y. Wang*

10:50 CATL 497. Photo-induced polymerization and reconfigurable assembly of multifunctional ferrocene-tyrosine: Applications in mimic enzyme and energy storage. *X. Yang, Y. Wang, W. Qi*

11:10 CATL 498. Cleaning up biocatalysis: A modular heterogeneous platform for H₂-driven enzymatic reactions. *J. Rowbotham, H. Reeve, O. Lenz, K. Vincent*

11:30 CATL 499. Activation mode and origin of selectivity in chiral phosphoric acid-catalyzed oxacycle formation by intramolecular oxetane desymmetrizations. *R. Maji, S.E. Wheeler*

11:50 CATL 500. Carbon dioxide mediated C-H activation for the functionalization of amines: A traceless directing group strategy. *M. Kapoor, M. Young, P.C. Thakuri*

THURSDAY AFTERNOON

SECTION D

Renaissance Boston Waterfront
Atlantic Ballroom 2

Advanced Catalytic Materials with Well-Defined Nanostructures for Energy & Fuel Sustainability

A. Orlov, *Organizer*

D. Su, S. Zhang, *Organizers, Presiding*

1:00 CATL 501. Stabilization of catalytic surfaces using bimetallic core-shell structures. *W. Diau, A. Wang, J. Tengco, J.R. Regalbuto, J.R. Monnier*

1:20 CATL 502. Metal-organic framework-derived highly nitrogen doped carbon support for palladium catalyzed deoxygenation at room temperature. *S. Dutta, B. Saha, D.G. Vlachos*

1:40 CATL 503. Platinum-silver bimetallic nanostructures for high-performing catalysis. *H. Yang*

2:10 CATL 504. Production of hydrogen gas from water under mild hydrothermal conditions using nanostructured cobalt. *A. Jawhari, D.K. Ryan*

2:30 Intermission.

2:40 CATL 505. In situ investigation of nucleation, growth, and corrosion behaviors of core-shell electrocatalysts. *H. Shan, Y. Ma, W. Chen, T. Deng, J. Wu*

3:10 CATL 506. Nanocubic Cu catalysts for selective C-C coupling in electrochemical CO₂ reduction. *K. Jiang, H. Wang*

3:30 CATL 507. Embedding enzymes into metal-organic frameworks via a *de novo* approach. *C. Tsung*

4:00 CATL 508. Polycarbonate assisted bi-walled multiscale cathode for high-performance solid oxide fuel cells (SOFCs) at 500 °C. *S. Shin, J. Kil, J. Choi, C. Lee, H. Kim, J. Son, H. Shin, M. Choi*

4:20 CATL 509. Nanosized zeolite Y synthesis using novel heterocyclic amines as structural directing agents. *V. Tzitzios, M. Katsiotis, T. Kranidis, T. Anjana, S. Al Hassan*

4:40 CATL 510. MOF nanocrystals confined within mesoporous materials (HyperMOFs) as novel platform for developing well-defined nanostructured catalysts. *I. Luz, M. Soukri, M.A. Lail*

SECTION E

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F

General Catalysis

K. K. Ramasamy, D. E. Resasco, F. Tao, *Organizers*
J. Kruger, D. Vardon, V. Vorotnikov, *Presiding*

1:00 CATL 511. Regioselectivity of epoxide ring opening with alcohols using heterogeneous Lewis acid catalysts. *N.A. Brunelli, N. Deshpande, A. Parulkar, R. Joshi, B. Diep*

1:20 CATL 512. Effect of soft template on the synthesis of manganese oxide nano-materials and their catalytic properties for the selective oxidation of toluene. *A. Altaf, A. Badshah*

1:40 CATL 513. Molecular engineering of multifunctional monolayers for the cooperative aerobic oxidation of alcohols. *A.E. Fernandes, P. Chandra, A.M. Jonas*

2:00 CATL 514. Hydrothermal stability of core-shell Pd@Ce_{0.5}Zr_{0.5}O₂/Al₂O₃ catalyst for automobile three-way reaction. *L. Li*

2:20 CATL 515. Fabrication of spinel-type Pd₃Co₃O₄ active sites on 3D ordered meso-macroporous Ce-Zr-O₂ with enhanced catalytic activity for soot oxidation. *J. Xiong, Y. Wei, J. Liu*

2:40 CATL 516. Catalytic behaviors of oxide interface in catalytic oxidation. *K. Li*

3:00 Intermission.

3:10 CATL 517. On the way to functionalize CO₂. *A. Poater*

3:30 CATL 518. Zirconium hydroxide-based sorptive and catalytic textiles. *E.E. Anderson, N. Dugan, N. Hoffman, N. Pomerantz, J. Rossin, R. Rossin, P. Yip*

3:50 CATL 519. Enantioselective fluorescent recognition of chiral secondary amino alcohols in the fluoruous phase: Leading to high-throughput chiral catalyst screening. *X. Wu, J. Marks, C. Wang, C. Zeng, L. Pu*

4:10 CATL 520. Recyclable stereoselective heterogeneous secondary amine organocatalysts for enal activation. *M. Meazza, R. Rios-Torres, R. Raja*

4:30 CATL 521. ReaxFF studies on platinum catalyzed decomposition of space propulsion fuels. *D. Depew, J. Wang, S.D. Chambreau, G.L. Vaghjiani*

4:50 CATL 522. Self-assembled Salen-Co(III) catalyst through aromatic donor-acceptor interaction and its application in hydrolytic kinetic resolution of epoxides. *Y. Liu*

CELL

Division of Cellulose and Renewable Materials

W. Thielemans, *Program Chair*

SUNDAY MORNING

SECTION A

Aloft Boston Seaport
Mahoney Ex:Change

Synergistic Approaches to Lignocellulosic Biomass Research

Cosponsored by CARB, ENVR and POLY
C. Cai, M. Dean Smith, *Organizers*

L. Petridis, *Presiding*

8:00 Introductory Remarks.

8:10 CELL 1. Experimental-computational studies on catalytic oxidation of lignin. *V.N. Nziko, R. Key, S. Alam, A. Ivanov, J.J. Bozell, J.M. Parks, A. Rudie, T.J. Elder*

8:40 CELL 2. Understanding cellulose mechanical properties through imaging, manipulation, and molecular simulation. *M.F. Crowley, P.N. Ciesielski, R. Wagner, V.S. Bharadwaj, J. Kilgore, M.E. Himmel*

9:10 CELL 3. Binding affinity dependence of lignin-cellulose complexes on cellulose faces and lignin composition. *J.V. Vermaas, G. Beckham, M.F. Crowley*

9:40 CELL 4. Integrating molecular dynamics, quantum mechanics and solid-state NMR to probe the structure of cellulose in planta. *D. Oehme, H. Yang, M. Hong, J.D. Kubicki*

10:10 Intermission.

10:30 CELL 5. Modification of lignin and its incorporation into polymers and composites for sustainable building technologies. *M. Karunarathna, M.K. Lauer, T. Thioung, A.G. Tennyson, R.C. Smith*

11:00 CELL 6. Diamond-anvil cell spectroscopic studies of the hydrothermal gasification of biomaterials. *I.S. Butler, J. Kozinski, M. Thomas, S. Nanda, A.K. Dalai, Z. Fang*

11:30 CELL 7. Real-time and online monitoring of biomass consumption processes using FTIR spectroscopy. *J. Speed*

Excellence in Undergraduate Research in Glycoscience

Sponsored by CARB, Cosponsored by CELL

Catalysis for Environmental & Energy Applications

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

SUNDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Mahoney Ex:Change

Synergistic Approaches to Lignocellulosic Biomass Research

Cosponsored by CARB, ENVR and POLY

C. Cai, L. Petridis, *Organizers*
M. Dean Smith, *Presiding*

1:30 Introductory remarks.

1:35 CELL 8. Molecular-level driving forces in lignocellulosic biomass deconstruction. *J. Smith*

2:05 CELL 9. In-situ small-angle neutron scattering investigation of cellulose dissolution. *S. Chundawat, L.D. Sousa, S. Pingali, H.M. O'Neill*

2:35 CELL 10. Combining deuterium-labeling and neutron scattering to gain molecular-level insights relevant to biomass deconstruction. *H.M. O'Neill, R. Shah, S. Pingali, B.R. Evans, L. Petridis, D. Sawada, V. Urban, J. Smith, P. Langan, B.H. Davison*

3:05 CELL 11. Fractionation of lignocellulosic biomass and the relationship between the lignin structure and its suitability for catalytic valorization. *P.J. Deuss, I. Hita, D. Zijlstra, A. de Santi, K. Barta, E. Heeres*

3:35 Intermission.

3:45 CELL 12. Biodiesel as a green solvent to improve the dilute acid pretreatment of lignocellulosic biomass. *A. Muhammad Ajaz, A. Umer, E. Ahmed Adil*

4:15 CELL 13. Real-time visualization of biomass deconstruction during various thermochemical reactions. *S. Pingali, H.M. O'Neill, L. Petridis, C. Cai, V. Urban, C. Wyman, A. Ragauskas, J. Smith, B.H. Davison*

4:45 CELL 14. Understanding lignocellulose dissolution with atomistic simulations. *B. Mostofian*

5:15 Concluding Remarks and Discussion.

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

SUNDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

General Posters

W. Thielemans, *Organizer*

7:00 – 9:00

CELL 15. Mechanochemical functionalization of polymers with solid phosphorylating agents and synthesis of flame-retardant cellulose nanocrystals. *B. Fiss, L. Hatherly, R. Stein, T. Friscic, A.H. Moores*

CELL 16. Effect of epoxidized cardanol on poly(vinyl chloride) as secondary plasticizer. *J. Chen, K. Li*

CELL 17. Impurities in cellulose nanocrystals and their retardation effects in the hydration of Portland cement pastes. *F.J. Montes, R.A. Chowdhury, M. Mavlan, J.P. Youngblood*

CELL 18. Extraction of nanocellulose from a unique grass-spinifex via different methods and its application in water purification. *R. Joshi, B.S. Hsiao*

CELL 19. Effect of source and purity of cellulose pulp on the yield and properties of cellulose nanocrystals extracted from forest biomass. *G. Kandhola, A. Djioleu, K. Rajan, B.A. Babst, W.L. Headlee, D.J. Carrier, J. Kim*

CELL 20. Gram-scale synthesis of single-crystalline graphene quantum dots derived from lignin biomass. *Z. Ding, X. Wang, R. Sun*

CELL 21. Fully water-soluble and biodegradable high-performance transient sensors on a low-cost, ultrathin galactomannan substrate. *Z. Cheng, N. Yi, H. Zhu*

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

General Posters

Sponsored by CARB, Cosponsored by CELL

MONDAY MORNING

SECTION A

Aloft Boston Seaport
Mahoney Ex:Change

Rational Design of Multifunctional Renewable-Resourced Materials

CNC/CNF Nanocellulose Composites

Cosponsored by CARB, ENVR and POLY

A. Albertsson, S. Percec, *Organizers*
U. Edlund, S. Percec, *Presiding*

8:00 Introductory Remarks.

8:05 CELL 22. Understanding and modulating surface interactions at cellulose nanocrystal surfaces. *S. Lombardo, W. Thielemans*

8:35 CELL 23. Preparation of interpenetrating polymer networks from natural rubber and polysaccharide. *P. Yu, H. He, Y. Luo, D. Jia, A. Dufresne*

9:05 CELL 24. Preparation, characterization and utilization of low density networks from cellulose nanofibrils. *L. Wagberg*

9:35 CELL 25. Advanced TEMPO-mediated oxidation of cellulose: Preparation of TEMPO-CNCs and layer-by-layer peeling of surface cellulose molecules on cellulose microfibrils. *A. Isogai*

10:05 Intermission.

10:15 CELL 26. Biobased polymers for the development of structure and functions: from bio-fabrication to arts and design. *B. Tardy, J. Lehtonen, L. Greca, N. Yau, B. Mattos, J. Beidler, O.J. Rojas*

10:45 CELL 27. Engineered polysaccharide materials from bio-refining of terrestrial and marine biomass. *U. Edlund, A. Svärd, M. Sterner, N. Wahlström*

11:15 CELL 28. Super gas barrier and flame retardant behavior of clay/cellulose nanofibril multilayer thin films. *S. Qin, M. Pour, S. Lazar, Y. Song, J. Geringer, L. Wagberg, J.C. Grunlan*

11:35 CELL 29. Cage-like cellulose nanofiber-based microcapsules for electrochemical and biosensor applications. *T. Paulraj, G.A. Crespo, A. Svagan*

11:55 Concluding Remarks.

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

MONDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Mahoney Ex:Change

Rational Design of Multifunctional Renewable-Resourced Materials

Synthesis of Renewable Materials

Cosponsored by CARB, ENVR and POLY

A. Albertsson, S. Percec, *Organizers*
A. M. Kasko, M. K. Osterberg, *Presiding*

1:00 Introductory Remarks.

1:05 CELL 30. Selective modification of polysaccharides: Towards controlled and useful architectures. *K.J. Edgar, J. Chen, B.L. Nichols, C.E. Frazier, A. Norris*

1:35 CELL 31. Synthesis and physical properties of polysaccharide linear and branched ester derivatives. *T. Iwata*

2:05 CELL 32. Novel applications of lignin: Spatially confined lignin nanospheres for biocatalytic ester synthesis in aqueous media. *M.H. Sipponen, M. Farooq, M.K. Osterberg*

2:35 CELL 33. Aromatic-aliphatic poly(ester-amides) and poly(ether-amides) synthesized from monolignol-based precursors. *B. Upton, R. Foley, A.M. Kasko*

3:05 Intermission.

3:15 CELL 34. Design of biodegradable cellulosic nanomaterials combining mechanical strength and optical transmittance. *L. Berglund, X. Yang*

3:45 CELL 35. Closed cycle production of colloidal lignin particles and their functionalization with silver for antimicrobial applications. *K. Lintinen, M.K. Osterberg, M. Kostainen*

4:15 CELL 36. Application of cellulose nanofibers from oil palm empty fruit bunches (OPEFBs). *F. Fahma, A. Takemura*

4:35 CELL 37. 3D-printable nanocellulose/alginate emulsion gels containing poly(lactic acid). *S. Huan, R. Ajdary, V. Klar, L. Bai, O.J. Rojas*

4:55 Concluding Remarks.

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Thermochemical & Biochemical Processes

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

W. Thielemans, *Organizer*

8:00 – 10:00

5, 15-16, 18-21, 28, 37. See previous listings.

44, 52, 57-58, 61, 63, 67-68, 72-73, 75. See subsequent listings.

TUESDAY MORNING

SECTION A

Aloft Boston Seaport
Mahoney Ex:Change

Rational Design of Multifunctional Renewable-Resourced Materials

Nanoparticle Structures & Properties

Cosponsored by CARB, ENVR and POLY

S. Percec, *Organizer*
A. Albertsson, *Organizer*, *Presiding*
K. Odelius, *Presiding*

8:00 Introductory Remarks.

8:05 CELL 38. Programming biological membrane mimics with sequence-defined Janus glycodendrimers derived from natural phenolic acids. *V. Percec*

8:35 CELL 39. Renewable, degradable, and high-performing aliphatic polyester elastomers. *M.A. Hillmyer*

9:05 CELL 40. Design of renewable polymeric materials through ring-opening reactions. *K. Odelius*

9:35 CELL 41. Polymer nanostructures for bioapplications: From stem cells enrichment to drug delivery. *M. Monteiro*

10:05 Intermission.

10:15 CELL 42. Chain extended and crosslinked bio-based polyesters, polycarbonates and polyamides. *J. Seppala*

10:45 CELL 43. Ring opening copolymerization of polylactone and poly(propylene fumarate) block copolymers for use in medical applications. *S.R. Petersen, J.A. Wilson, M. Becker*

11:15 CELL 44. Tetra-functional furan-based epoxy-amine thermosetting systems with superior characteristics. *X. Chu, S.K. Yadav, J. Vergara, J. La Scala, G.R. Palmese*

11:35 CELL 45. *In situ* preparation and properties of graphene-reinforced biobased unsaturated polyester nanocomposites. *C. Liu, Y. Hu, Y. Zhou*

11:55 Concluding Remarks.

Enzymes in Glycoscience

Sponsored by CARB, Cosponsored by CELL

Glycoprotein & Carbohydrate-Based Drugs for Human Health

Sponsored by CARB, Cosponsored by CELL

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Hydrogen, Biofuels & Biomass Upgrading

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

TUESDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Mahoney Ex:Change

Rational Design of Multifunctional Renewable-Resourced Materials

New Applications

Cosponsored by CARB, ENVR and POLY

A. Albertsson, *Organizer*
S. Percec, *Organizer*, *Presiding*
M. Hakkarainen, *Presiding*

1:30 Introductory Remarks.

CELL/CHED

1:35 CELL 46. Carbonized biopolymers as building blocks in renewable materials. *M. Hakkarainen*

2:05 CELL 47. Microbial polyhydroxyalkanoates with diverse structures as multifunctional materials. *G. Chen*

2:35 CELL 48. Injectable and self-healing polysaccharide hydrogels via boronate ester bonds: Relationships between the binding mode of boronic acids to saccharide moieties and the macroscopic mechanical properties. *R. Auzely-Velty*

3:05 CELL 49. Chemo-enzymatic synthesis of silk and elastin-like polypeptides as renewable materials. *K. Numata*

3:35 Intermission.

3:50 CELL 50. Developing sustainable printing inks using biochar as a substitute for carbon black. *S. Lauro, Y. Goh, D. Parulski-Seager, S. Williams, S. Barber, T. Trabold*

4:10 CELL 51. Biomass-derived nitrogen self-doped porous carbon for high performance supercapacitors. *F. Shen*

4:30 CELL 52. Revealing the dynamic formation process and mechanism of morphology-controlled hollow structured carbon particles: From bowl to sphere. *X. Liu, X. Zhang*

4:50 CELL 53. Mechanical properties and highly ordered structure analysis of crdlan propionate and its melt spun fiber. *T. Kabe, T. Iwata*

5:10 Concluding remarks.

Enzymes in Glycoscience

Sponsored by CARB, Cosponsored by CELL

Glycoprotein & Carbohydrate-Based Drugs for Human Health

Sponsored by CARB, Cosponsored by CELL

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Biochars & Renewable Carbons

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

WEDNESDAY MORNING

SECTION A

*Aloft Boston Seaport
Mahoney Ex:Change*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Cosponsored by CARB, COLL, ENVR and POLY
M. Anyfantakis, V. A. Davis, B. Frka-Petesic, J. Lagerwall, Y. Ogawa, *Organizers*
S. Vignolini, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 CELL 54. Anisotropic diffusion and phase behaviour of cellulose nanocrystal suspensions. *J. Van Rie, A. Gençer, S. Lombardo, C. Schütz, K. Kang, W. Thielemans*

8:30 CELL 55. Orientation relaxation dynamics of cellulose nanocrystal dispersions. *M. Pospisil, P. Saha, M.M. Noor, V.A. Davis, M.J. Green*

8:55 CELL 56. Using Rheo-SANS and Rheo-Optics to understand the shear response of cellulose nanocrystal dispersions. *P. Saha, M.M. Noor, K.M. Weigandt, M.J. Green, V.A. Davis*

9:20 CELL 57. Influence of hydrodynamic flows on the formation of cellulose nanocrystal films from sessile drops drying at different humidities. *J. Lagerwall, B. Dupas, M. Anyfantakis*

9:45 Intermission.

10:00 CELL 58. Investigation of crystalline domains alignment in the cellulose nanocrystal films with an improved birefringence technique. *R.A. Chowdhury, J.P. Youngblood*

10:25 CELL 59. Fractionation of cellulose nanocrystals enhances liquid crystal ordering without promoting gelation. *C. Honorato, C. Lehr, C. Schütz, R. Sanctuary, M. Ospov, J. Baller, J. Lagerwall*

10:50 CELL 60. On the effect of electrolytes on the tunable mesomorphic behavior of cellulose nanocrystal films. *S. Jin, R.J. Spontak*

11:15 CELL 61. Hygroscopic swelling determination of cellulose nanocrystal (CNC) films by polarized light microscopy digital image correlation. *S. Shrestha, J. Diaz, S. Ghanbari, J.P. Youngblood*

11:40 Concluding Remarks.

New Directions in Carbohydrate Synthesis

Sponsored by CARB, Cosponsored by CELL

Catalysis for Environmental & Energy Applications

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

WEDNESDAY AFTERNOON

SECTION A

*Aloft Boston Seaport
Mahoney Ex:Change*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Cosponsored by CARB, COLL, ENVR and POLY
M. Anyfantakis, V. A. Davis, B. Frka-Petesic, Y. Ogawa, S. Vignolini, *Organizers*

J. Lagerwall, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CELL 62. Bio-inspired photonics: From nature to applications. *S. Vignolini*

2:00 CELL 63. Flexible photonic materials based on cellulose nanocrystals with different morphologies. *V. Korolyovych, R. Geryak, V. Cherpak, D. Nepal, A. Ng, R. Xiong, T. Bunning, V.V. Tsukruk*

2:25 CELL 64. Tuning chiral nematic pitch of biosourced photonic films via electrostatic repulsion. *Z. Cheng, Y. Ma, H. Zhu*

2:50 CELL 65. Coassembly of cellulose nanocrystals and latex nanospheres in suspensions and in stratified films. *E. Kumacheva, M. Mitov, L. Bergstrom, H.H. Wensink*

3:15 Intermission.

3:30 CELL 66. Nanocellulose-based self-assembled materials: *In-situ* SAXS studies, processing and properties. *L. Bergstrom*

3:55 CELL 67. Critical discussion of electromechanical coupling properties of cellulose. *I. Chae, Z. Ounaies, S.H. Kim*

4:20 CELL 68. Roll-to-roll fabrication of anisotropic cellulose nanocrystal coatings for packaging application. *R.A. Chowdhury, J.P. Youngblood, C. Clarkson*

4:45 CELL 69. Surface-modified conducting chiral nematic mesoporous cellulose/polypyrrole composite films. *E. Lizundia, T. Nguyen, J. Vilas, W.Y. Hamad, M.J. MacLachlan*

5:10 Concluding Remarks.

New Directions in Carbohydrate Synthesis

Sponsored by CARB, Cosponsored by CELL

Diet, Health & Gut Microbiome

Sponsored by AGFD, Cosponsored by AGRO, BIOL, CARB and CELL

THURSDAY MORNING

SECTION A

*Aloft Boston Seaport
Mahoney Ex:Change*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Cosponsored by CARB, COLL, ENVR and POLY
M. Anyfantakis, B. Frka-Petesic, J. Lagerwall, Y. Ogawa, S. Vignolini, *Organizers*

V. A. Davis, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 CELL 70. Connecting micro- and mesoscale chirality in nematic fluids: Insights from simple models. *H.H. Wensink, S. Ruzicka, L.M. Anda, C. Ferreira-Córdova*

8:30 CELL 71. Broadband reflectors, multiwavelength mirrors, patterned polarizers: The shining world of beetles. *M. Mitov*

8:55 CELL 72. Superhydrophilic wrinkle-free cotton fabrics via nanofluid treatment. *L. Lao, L. Fu, G. Qi, E.P. Giannelis, J. Fan*

9:20 CELL 73. Highly proton conductive nitro-oxidized cellulose nanopaper for polymer electrolyte membrane (PEM) fuel cell. *S.K. Sharma, P.R. Sharma, H. Chen, B.S. Hsiao*

9:45 Intermission.

10:00 CELL 74. Thermally responsive bio-polymer flexible hydrogels as solid state electrolyte for supercapacitor. *H. Hailong, M. Xu*

10:25 CELL 75. Efficient removal of arsenic from water using regenerated microfibrillated cellulose supported zinc oxide/hydroxide nanoparticles. *P.R. Sharma, S.K. Sharma, R. Antoine, B.S. Hsiao*

10:50 CELL 76. New organosolv lignin for carbon fiber application. *T. Stevanovic Janezic, G. Koumba*

11:15 CELL 77. Cellulose nanocrystals in organic electronics. *W.Y. Hamad*

11:40 Discussion and Concluding Remarks.

CHED

Division of Chemical Education

A. Marsh, D. Bromfield-Lee and
P. Daubenmire, *Program Chairs*

SUNDAY MORNING

SECTION A

*Seaport World Trade Center
Waterfront Ballroom 1/2*

Chemistry Teachers Day Program

Cosponsored by PROF
S. C. Rukes, *Organizer, Presiding*
A. N. Serkin, *Presiding*

8:00 Registration.

8:30 Introductory Remarks.

8:35 CHED 1. Chemistry science investigation: Dognapping. A workshop to inspire STEM students. *T.J. Boyle, B.A. Hernandez-Sanchez, J.M. Sears*

9:00 CHED 2. Chemistry in three-dimensions (of NGSS): Connecting ideas, practices, and concepts - with data collection. *T.M. Loschiano*

9:40 CHED 3. Development of the flame test concept inventory: Measuring student thinking about atomic emission. *S. Bretz, A.V. Mayo*

10:10 Intermission.

10:20 CHED 4. Pathways to entrepreneurship in sustainability and chemistry. *S.W. Sheehan*

10:45 CHED 5. Experimenting with algae in the classroom. *A. Potter, S. Rukes*

11:25 CHED 6. Lab practicals as common summative assessments. *C. Koutros*

11:55 Concluding Remarks.

SECTION B

*Seaport World Trade Center
Beacon Hill 1*

Informal STEM Education: Innovation & Collaboration

Cosponsored by CCA, CPRC and PROF
D. I. Lewis, D. F. Sittenfeld, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CHED 7. Sharing science with society: ACS Chemistry Festival Program and Festival Training Institutes. *L. Raines, B. Miller, I. Montes*

8:55 CHED 8. Chemists Celebrate Earth Day events by Northeastern Section of American Chemical Society (NESACS) and Museum of Science (MoS), Boston: A golden opportunity for students to develop soft-skills. *J. Ranga*

9:15 CHED 9. The Tennessee STEAM Festival: A state-wide collaboration in Informal Science Education. *P.J. MacDougall, T. MacDougall*

9:35 CHED 10. Community college Science Slam: Activities to engage the public in STEM and health sciences. *R.A. Weintraub, B. Ameer*

9:55 Intermission.

10:10 CHED 11. Science story time and a preschool audience. *T.A. Halmi, H.N. Myers*

10:30 CHED 12. NESACS National Chemistry Week: Recruit, prepare, engage. *S. Lam*

10:50 CHED 13. Empowering undergraduates to be green chemistry ambassadors in their community through outreach. *S. Choudhry, A. Calnan, R. Marks, V. Ganss*

11:10 CHED 14. Empowering K-12 students to be STEM ambassadors. *G. Rubino, R. Derival*

11:30 Concluding Remarks.

SECTION C

*Seaport World Trade Center
Cambridge 1/2*

Use of Computer Simulation to Teach Chemical Kinetics & Enzyme Kinetics in Undergraduate Research & Education

Cosponsored by BIOL and COMP
D. K. Wicht, *Organizer*
K. A. Johnson, *Presiding*

8:30 Introductory Remarks.

8:40 CHED 15. KinTek Explorer: Getting the students' feet wet. *J. Potratz*

9:00 CHED 16. Teaching principles of chemical equilibria using computer simulation methods. *E. Taylor, K.A. Johnson*

9:20 CHED 17. Use of dynamic computer simulation in teaching chemical kinetics. *M. Zewail-Foote*

9:40 CHED 18. Use of KinTek Explorer to teach enzyme pre-steady-state kinetics in an advanced undergraduate biochemistry course. *E.E. Trimmer*

10:00 Intermission.

10:15 CHED 19. Understanding CRISPR-Cas9 Activity using KinTek Explorer Simulation. *S. Gong*

10:35 CHED 20. Probing the mechanism of DNA Ligase – DNA binding with Kintek Kinetic Explorer. *G.J. Lohman*

10:55 CHED 21. Using dynamic simulation to teach kinetics. *K.A. Johnson*

Women of Color in the Academy: Empirical Studies & Models of Success

Sponsored by PROF, Cosponsored by CHED and WCC

SUNDAY AFTERNOON

SECTION A

Seaport World Trade Center
Waterfront Ballroom 1/2

Chemistry Teachers Day Program

Cosponsored by PROF

S. C. Rukes, *Organizer, Presiding*

1:00 CHED 22. Assessing student growth in chemistry using standards based grading. *M.A. Chapman*

1:35 CHED 23. Inquiry lab into the nature of color: Student design and discovery. *H.W. Zimmer*

2:10 CHED 24. More “bang for the buck”: Short laboratory activities to explore multiple concepts. *S.M. Palmer*

2:45 Intermission.

2:50 CHED 25. Discovery learning: Development of a unique active learning environment for introductory chemistry. *W.R. Lacourse, L. Ott*

3:15 CHED 26. Chemistry is out of this world!
K.M. Kaleuati

3:45 CHED 27. Metal-organic framework nanospheres for smart drug delivery. *C. Tsung, A.P. Young*

4:10 Intermission.

4:15 CHED 28. Organizing chemistry instruction around scientific models. *T. Marx, E. Posthuma-Adams*

4:55 Concluding Remarks.

SECTION B

Seaport World Trade Center
Beacon Hill 1

Informal STEM Education: Innovation & Collaboration

Cosponsored by CCA, CPRC and PROF

D. I. Lewis, D. F. Sittenfeld, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CHED 29. Sharing the joy of chemistry with kids of all ages: Remembering Phyllis A. Brauner. *B.Z. Shakhshiri*

1:55 CHED 30. ChemAttitudes: Developing and disseminating strategies and materials to support chemistry interest, relevance, and self-efficacy. *D.F. Sittenfeld, M.M. Kirchhoff, R. Ostman, E.K. Kollmann, L. Bell*

2:15 CHED 31. Facilitation techniques for hands-on activities that increase feelings of interest, relevance, and self-efficacy in chemistry. *A. Anderson, M. Beyer, E.K. Kollmann, M. Bequette*

2:35 CHED 32. Science magic tricks to inspire and motivate very, very, very young students. *R. Silvestri*

2:55 Intermission.

3:10 CHED 33. Communicating Chemistry to undergraduate students at various outreach events.

M. Chatterjee

3:30 CHED 34. Collaborative partnerships between K-12 teachers/informal educators and scientists. *S. Kelly*

3:50 CHED 35. Energy and U: Teaching elementary school students thermodynamics through explosions, lasers, and dancing. *J. Ting, J. DeWilde, E.P. Rangnekar, J.E. Franek, F.S. Bates, M.A. Hillmyer, D.A. Blank*

4:10 CHED 36. Let’s talk about water: How to engage with the general public about fundamentals and recent advancements in water treatment. *A. Mulchandani, A.C. Barrios*

4:30 Concluding Remarks.

SECTION C

Seaport World Trade Center
Cambridge 1/2

Undergraduate Research Papers

Cosponsored by SOCED

C. V. Gauthier, J. V. Ruppel, *Organizers*

N. L. Snyder, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CHED 37. GC-MS analysis of Chinese Baijiu spirit flavored as American whiskey. *C. Mastorovich, R. Silvestri*

1:45 CHED 38. Development of a method to quantitatively determine the fidelity of mutant polymerases. *S. Barrett, A. Lecante*

1:55 CHED 39. New insight into the preparation of flame-retardant thermoplastic polyether ester utilizing beta-cyclodextrin as a charring agent. *J. Li*

2:05 CHED 40. Olefin chemistry on Au(111)-based catalysts. *M. Gillum, J. Wilke, M.C. DePonte, E.M. Maxwell, A.E. Baber*

2:15 Intermission.

2:35 CHED 41. Impact of chain architecture on the physical aging of polystyrene thin films. *G. Brown, E. Lewis, B.D. Vogt*

2:45 CHED 42. Towards spontaneously self-assembled supramolecular rotor systems: Conformational analysis of benzene and p-terphenyl rotators on a host-guest [10] cycloparaphenylene-C₆₀ dyad stator. *A. Siddiqui, S. Munoz, P.A. Ayala*

2:55 CHED 43. Syntheses, characterizations, and computational studies of SNS copper(I) pincer complexes based on bis-imidazole precursors: Impact of solvent coordination on atropisomeric conformations. *S.E. Zygmunt, J.R. Miecznikowski, E. Reinheimer, J.P. Jasinski, M.A. Lynn, E.M. Almanza, R.M. Kharbouch*

3:05 CHED 44. Quantification of a σ -synuclein concentration via graphene biosensors. *A. Sriram, S. Decker, O. Dickens, K. Luk, A.T. Johnson*

3:15 Intermission.

3:35 CHED 45. Ligand-induced stabilization of DNA and RNA G-quadruplex structures. *H. Hoang, T. Chiba, M. Pizzuto, C.M. Anderson, S.S. Jain*

3:45 CHED 46. Mechanism of PALB2’s interaction with DNA in homologous recombination. *L. Kanikkannan, J. Deveryshetty, S. Korolev*

3:55 CHED 47. Atomistic models of the lipid matrix in the stratum corneum. *E. Wang, J.B. Klouda*

4:05 CHED 48. Needle in a haystack: Antibacterial activity-guided fractionation of potato wound tissue extract. *M. Perez Rodriguez, K. Dastmalchi, R.E. Stark*

4:15 Intermission.

4:35 CHED 49. Characterization of the antioxidant activity of six mushrooms species. *A. Farragher-Gnadt, G. Holevinsky, J. Michelotti, E. Sharpe, F. Bou-Abdallah*

4:45 CHED 50. Pursuing the secondary structure of cancer-related DNA repeats using biophysical methods. *D. Jordan, B. Powell, L.A. Yatsunyk*

4:55 CHED 51. Carcinogenic and neurotoxic risks of acrylamide consumed through caffeinated beverages among the Lebanese population. *R. Daher, A. Merhi, G. Naous, M. Mroueh, R. Taleb*

5:05 Concluding Remarks.

SUNDAY EVENING

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

General Posters

A. L. Marsh, *Organizer*

7:00 – 9:00

CHED 52. Exploring exponential decay using limited resources. *A. Garafalo, E. DePiero, P. Gordon*

CHED 53. Sweet, sweet science: Addressing the gender gap in STEM disciplines through a one-day high school program in sugar chemistry. *D.J. DiScenza, M. Levine*

CHED 54. It takes an educational village and a safe learning environment to improving success in introductory chemistry: Lessons learned from one semester introductory chemistry course at a small liberal arts college. *M.J. Castaldi, J.K. Murray, S. Lyle, P. Jameson, J. Zhang, J. McHugh*

CHED 55. Paper to plastics: Combining outreach with new curriculum development. *A.S. Wang, A.W. Sudynd, M. Thompson, R. Andrisson, J.E. Wissinger, J.A. Byers*

CHED 56. Using eBooks to create textbooks that match students’ current learning styles. *J. Franco, B. Provencher*

CHED 57. Novel concept for effective teaching of electron configuration: Designing an “Electron House” model as a basic study tool. *G.M. Smeureanu, K.J. Grant*

CHED 58. Application of a practical dye-sensitized solar cell teaching kit in high school energy education. *C. Su, S. Chien, C. Chou, H. Wang, W. Li*

CHED 59. Development of workforce training and education programs at Lamar University through on-campus, online and onsite educational courses and hands-on laboratory training in Process Analytical Chemistry and Technology (PACT) and Laboratory Information Management Systems (LIMS). *S. Shukla, T. Aminabhavi, P. Chandrasekaran, B. Yu, A. Shukla*

CHED 60. Implementation of general chemistry supplemental instruction at a regional campus. *C. Cady, J.D. Aguirre*

CHED 61. Investigating the effect of curriculum on gender-minority STEM outreach camp outcomes. *K. Tyler, N. Johnson-Glauch, J. Krogstad*

CHED 62. Studies in SPIRAL: Case studies in development and testing of POGIL laboratory experiments. *C.M. Teague, E.C. Bucholtz, S. Fidler, M.P. Garoutte, T.A. Herzog, A.B. Mahoney, M.D. Perry, M.T. van Opstal, G.H. Webster, R.M. Whitnell*

CHED 63. Iron and heat content of a hand warmer.
D.C. Haagenson

CHED 64. Impact of septic systems on Long Island’s aquifer water quality: An Interdisciplinary study. *S. Sambasivan, A.N. Miguez, K. Gutleber, R. Davan, Z. Al-Masri, B. Golden, N. Leonhardt, C.J. Foley*

CHED 65. Molecule of the week (MOTW) as a teaching tool in undergraduate education to motivate science learners.
F. Manyanga, C. Chen

CHED 66. Use of benchtop NMR with classical resolutions to resolve over the counter analgesics; an undergraduate organic chemistry laboratory. *M.A. Bailey, R. Blough, D. Boyd, M.J. Castaldi, R. Espina, J.K. Murray, H. Robert*

CHED 67. Extending the scope of alcohol oxidations in discovery-oriented organic chemistry laboratories.
D.D. Clark, J. Haycock, B. Nelson

CHED 68. Carbon in CHCl₃ is NOT sp³ hybridized: Tetrahedral geometry does NOT require this. *D.D. Clarke*

CHED 69. AccessARizing the teaching laboratory.

B.A. Haubrich, L. Rochefort, M. Saladino, A. Basu, C. Reid

CHED 70. Extensive studies of nucleophilic addition of para-substituted phenol to 4-fluorobenzaldehyde. *H. Chen, E. Wiggin, C. Zhang, X. Fan*

CHED 71. Organic dice: A didactic game for teaching chemistry. *C. Rackov, H.Y. Souza*

CHED 72. Enhancing student learning with Molecule of the Week from ACS. *C. Chen, F. Manyanga*

CHED 73. Course-based research in Organic II: Synthesis of neuroleptin derivatives for potential treatment of a neglected tropical disease. *K.M. Shea, K.L. Barnett*

CHED 74. Quantifying activation energy of nucleophilic aromatic substitution on fluorinated porphyrins. *W. Rizvi, N.K. Bhupathiraju, S. Siddiqui, C.M. Drain, R. Park*

CHED 75. Independent research projects in an undergraduate physical organic chemistry course. *S.L. Goh*

CHED 76. Mass spectrometry: Teaching beyond the box.

H.M. Gabor, B. Regel, C. DeCarlo, S. Fleishner

CHED 77. Design, implementation, and evaluation of an interdisciplinary undergraduate laboratory experiment in paper-based devices for synthetic analyte detection. *T. Mako, M. Levine*

CHED 78. Chemoinformatics courses to enhance the curricula of university students. *J. Ruiz-Rios, F.I. Saldivar-González, J.L. Medina-Franco*

CHED 79. Development of near-infrared emitting fluorophores for potential biosensing application.

R. Choudhury

CHED 80. Determination of fatty acids in coffee using gas chromatography/mass spectrometry (GC/MS). *A.A. Bazzi, J. Bazzi, Y. Deng, F. Ali, A. Badaoui, N. Jaffal, H. Jouni*

CHED 81. Cyclic voltammetry in the undergraduate teaching laboratory: Determining benzocaine concentrations in aqueous solution using carbon screen-printed electrodes. *D.E. Martyn, S.K. Buehler*

CHED 82. High throughput discovery: A multidisciplinary approach to translational research & education. *S. Berritt, D. Schultz, J. Field*

CHED 83. TAP into chemistry: Using video mini-lessons to address preparation of students for upper-division coursework. *A. Manevich*

CHED 84. Guided inquiry experiment involving the intrinsic viscosity of a polymer in aqueous solution. *A.L. Marsh*

CHED 85. Mantras for graduate education reform: Why the prayers aren’t answered. *M.T. Ashby, M.A. Maher*

CHED 86. Enhancing the learning experience in a nonmajors chemistry class. *J.D. Aguirre*

CHED 87. Development of a rubric to assess scientific writing in the chemistry curriculum. *T.J. Dransfield, J. Evans*

CHED

CHED 88. Improving the teaching skill of young teachers within teaching team. *Z. Wang, Z. Jiang*

CHED 89. Bridging the gap: The IUPAC Young Observer program. *L. Kent, M.M. Rogers, D. Rabinovich*

CHED 90. Mutually beneficial relationship between students and peer learning assistants in course-based undergraduate research experiences (CUREs). *K. Targos, J. Jennings, A.W. Vater, A.K. Franz*

MONDAY MORNING

SECTION A

Seaport World Trade Center
Waterfront Ballroom 3

General Papers

Curriculum

S. A. Fleming, *Organizer*

A. V. Mallia, *Presiding*

8:30 Introductory Remarks.

8:35 CHED 91. Factors that influence chemistry students to choose a chemistry-related career. *S. Avargil, G. Sterimbaum*

8:55 CHED 92. Read this! The use of primary literature in the undergraduate chemistry curriculum. *R.M. Savizky*

9:15 CHED 93. Block-mode delivery of undergraduate chemistry – Designing the curriculum. *D. Caridi, S.W. Bigger, A.J. Smalridge*

9:35 CHED 94. Assessment across the undergraduate curriculum: Moving toward an integrated capstone experience. *J. Zhang, J.K. Murray, M.J. Castaldi, M.A. Bailey, R. Blough*

9:55 Intermission.

10:10 CHED 95. Preparing second career chemistry teachers. *G. Shwartz, Y. Dori*

10:30 CHED 96. Creating a viable research program at a small two-year college. *J.W. Hartman*

10:50 CHED 97. Promoting undergraduate research at an HBCU: Sophomore immersion in research and academics program. *S.O. Fakayode, G. Byrd, S. Wellman, T.A. Pinder, Z.S. Wilson*

11:10 CHED 98. Re-structuring the general chemistry curriculum to facilitate decision-based learning. *S.G. Wood, K. Plummer, R. Swan*

11:30 Intermission.

11:45 CHED 99. Peer-facilitated workshops enhances interactivity and student success in nursing chemistry sequence. *K.J. Grant, G.M. Smeureanu*

12:05 CHED 100. Effectiveness of the self-regulation skills in partially flipped organic chemistry classroom using learner logs at a 4-year public college. *A.V. Mallia*

12:25 CHED 101. Use of automated response systems (ARS) in a small, upper-division chemistry class. *J.F. Kirby, M. Nabel*

12:45 CHED 102. Who does extra credit? *A.G. Karatjas, J.A. Webb*

SECTION B

Seaport World Trade Center
Waterfront Ballroom 1A/1B

Science Diplomacy & Chemistry Education

The Middle East

Cosponsored by IAC and PROF

M. Z. Hoffman, Z. M. Lerman, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CHED 103. Science diplomacy in the Soviet Union, Cuba, and the Middle East. *Z.M. Lerman*

9:05 CHED 104. Malta conferences: Science diplomacy as a bridge to peace in the Middle East. *M.Z. Hoffman*

9:35 CHED 105. Enzymatic nanoreactors to the rescue. *O.K. Farha*

10:05 Intermission.

10:15 CHED 106. Inherently international geoscience issues are scientific diplomacy opportunities. *C.E. Kalb*

10:45 CHED 107. Pursuing peace in the Middle East through science education. *L. Hogue*

11:45 Concluding Remarks.

SECTION C

Seaport World Trade Center
Cambridge 1/2

Approaches in Using Food & Cooking to Engage Diverse Audiences in Science

K. Hollar, V. Maini Reklka, P. M. Sorensen, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CHED 108. Crystalline vs amorphous solids, a great way to use food science as an introduction to real chemistry. *S.B. Mitchell*

8:55 CHED 109. Engaging non-science majors: Boston University PY107 – Physics of Food and Cooking. *R. Bansil, K. Ludwig*

9:15 CHED 110. Chemistry and physics of cooking at Duke: Lessons and perspectives. *P. Charbonneau*

9:35 Intermission.

9:45 CHED 111. How teaching “Molecular Gastronomy: From Test Tubes to Taste Buds” makes science palatable for all students. *P.B. O’Hara*

10:05 CHED 112. Designing a chemistry of cooking course with campus dining staff and facilities. *L. Tran Lu*

10:25 CHED 113. An amuse-bouche of chemistry: Using food to acquire scientific literacy among non-science majors. *M. Mulé, J. Foley*

10:45 CHED 114. Teaching flavor chemistry and fostering curiosity with food fermentations. *P.M. Sorensen*

11:05 Intermission.

11:15 CHED 115. Food across Augsburg’s curriculum.

B. Stottrup, M. Wentzel, J.R. deVries, A. Green

11:35 CHED 116. Hands-on preparation of aromatic Indian dishes as a way to discuss chemistry and then eat the products. *K.K. Bagga*

11:55 CHED 117. Young Chefs Program lesson plan development: A student-led independent study project in cooking and science. *D.S. Gross, V. Maini Reklka*

12:15 Concluding Remarks.

How to Get Your 1st Industrial Job

Sponsored by PROF, Cosponsored by CHED, CTA and YCC

Citizen Science & Chemistry

Sponsored by ENVR, Cosponsored by CEI and CHED

MONDAY AFTERNOON

SECTION A

Seaport World Trade Center
Waterfront Ballroom 3

From Nano to Macro: How to Let Students Discover the Applications of Materials

Financially supported by IPEC

S. C. Rukes, *Organizer, Presiding*

1:30 Introductory Remarks.

1:40 CHED 118. From nano to macro: A make and take session of multiple demo aids. *S.C. Rukes*

2:35 CHED 119. Using nanotechnology to teach high school chemistry concepts. *S.C. Rukes*

2:50 CHED 120. Playing with “nano-blocks” enables learning about environmental applications of nanotechnology. *A. Mulchandani, A.J. Atkinson, S. Garcia-Segura, P.K. Westerhoff*

3:20 Intermission.

3:25 CHED 121. Biomimicry: Inventions and innovations inspired by nature. *E. Nash, S. McCarron-Stewart*

3:55 CHED 122. Microscopic mycelium: Growing sustainable design solutions. *R. Derival, E. Nash*

4:25 CHED 123. Sustainable textiles: Threads that connect us all. *S. McCarron-Stewart, G. Rubino*

4:55 CHED 124. The secrets of sharks’ skin. *K. Anderson, A. Lambert*

5:25 Concluding Remarks.

SECTION B

Seaport World Trade Center
Waterfront Ballroom 1A/1B

Science Diplomacy & Chemistry Education

The Middle East & Beyond

Cosponsored by IAC and PROF

M. Z. Hoffman, Z. M. Lerman, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CHED 125. Health sciences diplomacy as an alternative to political paralysis. *A. Taylor*

2:05 CHED 126. Synchrotron light sources in developing countries; sesame and others. *H. Winick*

2:35 CHED 127. IYCN: Young chemists leading positive change. *L. Ferrins, C. Rawlins, E. Llabani*

3:05 Intermission.

3:15 CHED 128. Formula for a successful international collaboration: The NESACS-GDCh student exchange program. *T.R. Gilbert*

3:45 CHED 129. Global collaborative STEM education: Opportunities for international high school students to diplomatically exchange insight and perspective on pressing global challenges. *S. Kelly, T. Perry*

4:15 CHED 130. Building international collaborations through Distributed Drug Discovery (D3). *W.L. Scott, J.G. Samaritani, M.J. O’Donnell*

4:45 Concluding Remarks.

SECTION C

Seaport World Trade Center
Cambridge 1/2

Approaches in Using Food & Cooking to Engage Diverse Audiences in Science

K. Hollar, V. Maini Reklka, P. M. Sorensen, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CHED 131. Young Chefs Program: An open-access platform for cooking and science education in the digital age. *V. Maini Reklka*

1:55 CHED 132. The Young Chefs Program at Carleton College: Using cooking to teach middle school students science. *S. Amagai, R. Fairchild, V. Umscheid, J. Johnson, D.S. Gross*

2:15 CHED 133. STEAM and cooking with chef Koochooloo. *L. Sabourian*

2:35 Intermission.

2:45 CHED 134. SteamEd: Training educators in science and cooking. *V. Maini Reklka, K. Hollar, P.M. Sorensen*

3:05 CHED 135. Molecular gastronomists at Georgia Tech: A student club at the intersection of science, culture, and food. *M. Evans, E. Ellison*

3:25 CHED 136. Engaging doctoral students at the scientific-culinary interface. *A. Walker, K.A. Jackson, V. Maini Reklka, R. Mazitschek, S. Thomas*

3:45 CHED 137. Using kitchen chemistry and technology to engage K-12 and college students. *E. Nam*

4:05 Intermission.

4:35 CHED 138. Improving quality of life in patients through culinary research. *G. Gangal, A. Gálvez, T. Massanés*

4:55 CHED 139. Effective science communication through cooking. *L.H. Zhou*

5:15 Concluding Remarks.

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Undergraduate Research Posters

Agricultural & Food Chemistry

Cosponsored by AGFD and SOCED

N. Di Fabio, J. Roberts, *Organizers*

2:00 – 4:00

CHED 140. Determination of pesticide residues at the Food and Drug Administration using the QuEChERS extraction method in conjunction with liquid and gas chromatography. *H. Kim, X. Yu, T. Harrison, P.D. Svoronos*

CHED 141. Elemental analysis of arsenic in rice speciation. *K. Kaur, L. Aleo, D. Stutts, P.D. Svoronos*

CHED 142. Volatile components of *Artocarpus altalis* (breadfruit) peel. *B. Yates, K. Robinson, C. Richardson, S. Silver, N. Spellman, K. Christian, O.E. Christian*

CHED 143. Isolation and identification of volatile components from the flowers of *Artocarpus altalis* (breadfruit). *U. Ouoha, S. Patel, C. Nkwazema, K. Christian, O.E. Christian*

CHED 144. Determination of pesticide residues at the Food and Drug Administration using the QuEChERS extraction method in conjunction with liquid and gas chromatography. *H. Kim, X. Yu, T. Harrison, P.D. Svoronos*

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CHED 141. Elemental analysis of arsenic in rice speciation. *K. Kaur, L. Aleo, D. Stutts, P.D. Svoronos*

CHED 142. Volatile components of *Artocarpus altalis* (breadfruit) peel. *B. Yates, K. Robinson, C. Richardson, S. Silver, N. Spellman, K. Christian, O.E. Christian*

CHED 143. Isolation and identification of volatile components from the flowers of *Artocarpus altalis* (breadfruit). *U. Ouoha, S. Patel, C. Nkwazema, K. Christian, O.E. Christian*

CHED 144. Determination of pesticide residues at the Food and Drug Administration using the QuEChERS extraction method in conjunction with liquid and gas chromatography. *H. Kim, X. Yu, T. Harrison, P.D. Svoronos*

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CHED 148. DNA aptamers that selectively bind to hydroxyapatite. *E. Duffy, A.E. Gerdon*

CHED 149. Calcium phosphate supersaturation ratios alter DNA aptamer-templated mineralization in solution. *J. Shlafman, A.E. Gerdon*

CHED 150. Using measurements at individual nanoparticles to screen electrocatalysts for hydrazine oxidation. *J. Walmsley, P. Saha, C.M. Hill*

CHED 151. Quantification of cinnamaldehyde in dietary supplements and cooking spices. *D. Hallak, K.S. Wendling*

CHED 152. Determination of the refractive index of calcium nitrate measured by the extension method. *J. Park, H. Kim, J.H. Shin*

CHED 153. Thermodynamic study of esterification of acetic acid and amyl alcohols using a microwave reactor. *K. Simon, J.H. Shin*

CHED 154. Polyurethane elastomers in cultural heritage: Spectral analysis and database generation. *M. Landis, A. Rizzo*

CHED 155. Determination of aluminum in commercial cake mix with flame atomic absorption spectroscopy. *R.J. Halthus, A.A. Bazzi, J.A. Bazzi*

CHED 156. Biomolecular influence on a model lipid membrane: Raman spectral study. *E. Miller, S. Brazili, J. Warner Clement, S. Lee*

CHED 157. Determination of lead in municipal water samples from Flint, MI, using GFAAS and ICP-MS. *E.J. James, K.A. Rincon, J. Bazzi, A.A. Bazzi*

CHED 158. Optimization of calibration-free laser-induced breakdown spectroscopy for the rapid classification of iron and stony-iron meteorites under ambient conditions. *O.F. Wass, D. Gerrity, N.A. Swartz, O. Cohen, M. Hebert*

CHED 159. Portable X-ray fluorescence (XRF) for field archaeology. *N. Allen, M.K. Donais, D. George*

CHED 160. X-ray fluorescence spectroscopy analysis of illuminated manuscripts. *E.A. Lomuscio, M.K. Donais*

CHED 161. Detection, isolation, and characterization of pigments produced by soil bacteria. *M. Slemmer, M. Bell, S.E. Lettini, T.P. Umile*

CHED 162. Quantifying xylene mixtures by Raman spectroscopy. *L. Reilly, R. Desamero, E.E. Mojica*

CHED 163. Raman spectroscopic analysis of nitrile containing compounds. *L. Wyan, R. Desamero, E.E. Mojica*

CHED 164. Characterization of bee propolis from Greece. *J. Farshi, E.E. Mojica*

CHED 165. Binding of sulfa drugs with nanoceramics (metal oxides). *G. Iannone, E.E. Mojica*

CHED 166. Lipid profiling in K562 human leukemia cells via gas chromatography-mass spectrometry. *J. Gilbertson, E. Hong, A. Gaito, L. Cintron-Rivera, L. Dupree, C. Andersen, A.R. Van Dyke*

CHED 167. How does pesticide accumulation impact a keystone species? Quantification of atrazine in the hepatopancreas of crayfish using QuEChERS extraction and liquid chromatography-mass spectrometry. *D.J. Dayfield, K.E. Yacoo, D.N. Maxwell, V.C. Torres, R.M. Belanger, E. Roberts-Kirchhoff, K.R. Evans*

CHED 168. Quantification of unreacted styrene in composites laminate using SPME/GC techniques. *J. Habumugisha, J.R. Ford*

CHED 169. Specific electrical capacitance for model membrane thickness. *J. Giancaspro, S. Lee*

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Undergraduate Research Posters

Biochemistry

Cosponsored by BIOL and SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 170. Nucleosome assembly on oxidatively damaged DNA. *L. Gonzalez, C. Aguirre, M. Klureza, E.R. Jamieson, M. Nunez*

CHED 171. Efforts towards the structure of a noncanonical DNA repeat implicated in cancer. *B. Powell, D. Jordan, J.B. Chaires, W. Dean, R. Marmorstein, E. Brown, L.A. Yatsunyk*

CHED 172. Biophysical and structural studies of telomeric DNA in complex with a small molecule ligand as an anticancer strategy. *Y. Lin, L.A. Yatsunyk*

CHED 173. Bacterial adhesion measured by atomic force microscopy. *A. Walker, C. Peraza, C.B. Volle, M.A. Ferguson, E.M. Spain, M. Nunez*

CHED 174. Simulations of the effect of caffeine on water permeability across a biological membrane. *T. Johnson, W. Peña, S. Lee, R. Versace*

CHED 175. New strategy for the synthesis of aminoacylated dinucleotide CpA-aa. *R. Rodriguez, C. Brehm, M. Wisniewski, R.C. Nangreave*

CHED 176. Discovery of new sphingosine kinase 1 inhibitors. *E. Mera, M. Pulaski-Gross*

CHED 177. Fluorescence and UV-Vis studies of quinone-induced protein modifications. *J. Ewald, C. Thomas, J. Kim, T.V. Albu*

CHED 178. Bacterial nucleic acid quadruplex formation. *A. Cecere, S. Shepardson-Fungairiño, H. Murayama, M. Nunez*

CHED 179. Thermodynamics of glutathione binding to Fe(II), Cu(II), and Zn(II): An isothermal titration calorimetry study. *J. Paliakkara, F. Bou-Abdallah*

CHED 180. Effect of chaotropes on the kinetics of iron release from ferritin by flavin nucleotides. *N. Flint, L. Johnson, T. Wilkinson, P. Arosio, A. Melman, F. Bou-Abdallah*

CHED 181. Inhibition of histone deacetylases by dihydroxamate-containing compounds. *L. Bayless, S. Kim*

CHED 182. Interaction between the twin arginine transport receptor protein, cpTatC, and the transporting precursor mature peptide. *K. Hird, G. Thomas, C. Dabney-Smith*

CHED 183. *In vitro* effects of mushroom extracts on brain tumor cells. *O. Gharib*

CHED 184. Investigating the interaction of antimicrobial peptides with Gram-positive biofilms. *R. MacVicker, T. Mashaka, M. Nunez, C.B. Volle*

CHED 185. Investigation of factors that trigger essential conformational changes in FTT258. *A.A. Hossain, R. Johnson*

CHED 186. Characterization of modified-DNA polymerase fidelity. *M.K. Seto, A.M. Lecante*

CHED 187. Ester-protected ethambutol derivatives. *E. Kile, R. Johnson*

CHED 188. Nanomaterials interact with artificial lipid bilayers. *M. Skinner, R. Warmoth, S. Lee*

CHED 189. Model cell membranes are perturbed by anti-inflammatory drugs. *M. Wood, M.J. Morales, S. Lee*

CHED 190. Permeability of unsaturated lipid membranes: Effect of alpha-tocopherol. *S. Foley, S. Lee*

CHED 191. Control of membrane water permeability in asymmetric droplet interface bilayer. *B. OSullivan, M.J. Morales, S. Lee*

CHED 192. Differential scanning calorimetric study of the effect of small molecules on the thermal behavior of phosphatidylcholine lipid bilayer. *A. Jagarnath, B. OSullivan, S. Lee*

CHED 193. Investigation of functionally essential cysteine residues within human ghrelin O-acyltransferase. *M. Aiduk, T. Davis, J. Hougland*

CHED 194. Sarkosyl: A milder detergent than SDS for identifying proteins with modest hyperstability using gel electrophoresis. *J. Patrick, J. Thibeault, K. Xia, A. Martin, S. Hill, J. Sen, W. Colon*

CHED 195. Enzyme kinetics of amylase in the presence of sucralose by the iodine-starch method. *J.D. Popolow, P.S. Oscar, T.A. Trumbo Bell*

CHED 196. Comparison of balance error scoring system scores and salivary glial fibrillary acidic protein concentration in adult soccer players as markers for mTBI. *A.P. Martin, C.P. Haldren, T.A. Trumbo Bell*

CHED 197. Comparative analysis of the different technologies used in metabolomics and creation of a gut-microbiome resource kit for high-school curriculum. *V. Joshi, S. Sarangi, E. Angle*

CHED 198. Isolation of glycoside hydrolases towards the goal of universal blood. *D. Leyva, M. Gallo*

CHED 199. Effects of electrophiles on the heat shock response system. *E. Trost, M. Sternick, R.E. Connor*

CHED 200. Exploring a possible moonlighting role for global phosphatase in *S. pneumoniae*. *H. Sellers, N.E. Grosseohme*

CHED 201. Investigation and preparation of novel formulations comprised of exotic butters and marine algae as antimicrobial surfaces. *M. Lopata, J.I. Rizzo, K. Melkonian, K. McLeod*

CHED 202. Effects of multiple amino acid mutations of a key quorum sensing peptide, CSP-1. *K. Chichura, B. Kairala, Y. Tal-Gan, M.A. Bertucci*

CHED 203. Structural impacts of substituting dialkylated amino acids into a beta-sheet peptide. *A. Weber, G. Lengyel*

CHED 204. Investigation of the structure of G-quadruplex DNA in complex with porphyrin ligand. *Y. Manurung, Y. Lin, L.A. Yatsunyk*

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Undergraduate Research Posters

Biotechnology

Cosponsored by BIOT and SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 205. Continuous 3D chaotic printing: Using the chaotic flow induced by a Kenics mixer to continuously fabricate complex micro- and/or nanostructure at high resolution. *C. Chávez, M. Diaz de Leon Derby, G. Trujillo de Santiago, M. Alvarez*

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Boston Convention & Exhibition Center
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Undergraduate Research Posters

Chemical Education

Cosponsored by SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 206. Effect of active learning videos on organic chemistry learning. *J. Su, R.R. Srinivasan*

CHED 207. Effective scaffolding for students' out-of-class use of chemistry simulations. *A. Shrode, B. Martinez, D.G. Herrington, R.D. Sweeder, J.R. Vandenplas*

CHED 208. Evaluating the health benefits of polyphenols using analytical and computational methods. *S.L. Burke, A.M. Fedor*

CHED 209. Green analytical chemistry lab: Spectrophotometric determination of phosphate. *M. Dilip, R. Lindsay*

CHED 210. Sizzle and fizzle: An inexpensive and accessible kinetics experiment using bath bombs. *M. Cabassa, B.L. Haas*

CHED 211. Using bulky groups to favor the typically unfavored diastereomer in benzoin reduction: An inquiry-based teaching laboratory. *J. Merritt, F. Firooznia*

CHED 212. Bias analysis: Proficiency testing program focused on research-based learning (RBL). *G. Lopez-Reyes, M. Olvera-Treviño*

CHED 213. Students' participation and teaching strategies: Developing first-year undergraduate students' learning skills, motivation and positive affect. *M. Elizondo, J. Ramirez Torres, S. Sandi-Ureña*

CHED 214. Absolute temperature determination for general chemistry laboratory. *A. Dukart, D.R. Viernes*

CHED 215. Team-Based Learning (TBL) in a chemistry classroom. *K. Pangallo*

CHED 216. Does focused algebra review impact undergraduate students' math confidence in chemistry? *K. Pangallo*

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Boston Convention & Exhibition Center
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Undergraduate Research Posters

Colloid & Surface Chemistry

Cosponsored by COLL and SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 217. Three-component coupling to create novel nanocomposites. *B.P. Chauhan, G. Longia, Q. Johnson*

CHED 218. Development of iron oxide based nanoparticle vaccines for human papilloma virus. *R.H. Vincent, A. Reilly, J.W. Dittmar, B.D. Stein, L. Bronstein*

CHED 219. Superparamagnetic iron oxide nanoparticle clustering aided by multiblock amphiphilic copolymer increases drug uptake and release. *P. Price, J.W. Dittmar, B. Lawson, A.S. Voronov, A. Kohut, L. Bronstein*

CHED 220. Synthesis, morphological evolution and kinetic studies of rhodamine-late transition metal complexes. *B.P. Chauhan, V. Musli, A. Gaba, M. Chauhan, G. Longia*

CHED 221. Examining interbacterial forces by atomic force microscopy. *T. Liu, P. Saha, M.A. Ferguson*

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Boston Convention & Exhibition Center
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Undergraduate Research Posters

Computational Chemistry

Cosponsored by COMP and SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 222. Determining the effects of metabolism on green tea polyphenols using computational methods. *K. Grzymiski, A.M. Fedor*

CHED

CHED 223. DFT study of amine group anchoring in silicon (100) surface dimers. *J.E. Rojas, F. Muñoz*

CHED 224. Probing the mechanism of binding between the sperm and egg cell surface receptors by molecular dynamics simulations and free energy calculations. *J.D. Balmforth, E.N. Laricheva*

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*Boston Convention & Exhibition Center
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Undergraduate Research Posters

Environmental Chemistry

Cosponsored by ENVR and SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 225. Selectivity in heavy metal removal from contaminated water using agrowaste. *O. Olafuyi, A. Allen, O. Okeh, L.E. Agwaramgbo*

CHED 226. Determination of bacteria, chlorophyll a and dissolved oxygen in wastewater at the New York City Department of Environmental Protection (NYC-DEP). *L. Ramirez Medrano, B. Boniecki, F. Jacques, P.D. Svoronos*

CHED 227. Photochemical degradation of oil products in seawater monitored by 3D excitation-emission matrix (EEM) fluorescence spectroscopy: Implications for colored dissolved organic matter (CDOM) studies. *W.J. De Bruyn, D.K. Chang, T. Bui, S. Hok, C. Clark*

CHED 228. Nitrogen concentration trends in Long Island Sound. *L. Ramirez Medrano, P.D. Svoronos, P. Marchese*

CHED 229. Analysis of sulfonyl bisphenol (BPS) leaching from polycarbonate baby bottles. *L. Hall, E. Ruben, S. Sullivan, B. Ware, M. Berger*

CHED 230. Tennessee's Nolichucky River: Studies of enriched uranium in environmental media from a nuclear fuel fabrication facility. *A. Awosanya, N. Bagnall, R. Jackson, J. Long, B. Rodriguez, S. Youtsey, M.E. Ketterer*

CHED 231. Atmospheric measurements of NO, NO₂, CO₂, CO, and CH₄ in concentrations in the air. *N. Shatirishvili, G. Jibuti, W.G. Tong*

SECTION D

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Undergraduate Research Posters

Green Chemistry & Sustainability

Cosponsored by CEI and SOCED
Financially supported by GCI; I&EC Green Chemistry
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 232. Greener remediation of hexavalent chromium using cellulose films. *M. Dilip, J. Levitre*

CHED 233. Effect of NaCl on the solid phase acid catalyzed transesterification of vegetable oil to generate fatty acid methyl esters biodiesel. *W. Burnett, P.T. Bell*

CHED 234. Greener removal of hexavalent chromium using cellulose films. *J. Levitre, M. Dilip*

CHED 235. Incorporating green chemistry and sustainability into the undergraduate organic teaching labs. *A. Giarrosso, J.M. Garcia*

CHED 236. Novel synthetic methods for green organic laboratory preparations: Mechanochemical synthesis of carboxycoumarins. *S.M. Bakal, S.M. Choudhry, N.E. Schmeltz, E. Vangeli, M.N. Washington, I.J. Levy*

CHED 237. Preliminary investigation of the qualitative and quantitative exposure of a community of college students to bisphenol A and bisphenol S. *A. Berube, E.J. Brush*

CHED 238. Exploring the mechanochemical synthesis of metal ammine chlorides. *K. Mahardy, C.K. Pham, K. Schultz, N.J. O'Neil*

CHED 239. Greening the Hantzsch dihydropyridine synthesis for preparation of symmetric 1,4-dihydropyridines in the undergraduate laboratory. *S. Mattei, I.J. Levy*

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Undergraduate Research Posters

Inorganic Chemistry

Cosponsored by INOR and SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 240. Deactivation of a ruthenium(II) N-heterocyclic carbene p-cymene complex during transfer hydrogenation catalysis. *R.M. Kharbouch, J.R. Miecznikowski, B.Q. Mercado, M.A. Lynn, M.E. Morgan, S. Bonitatibus, N.A. Bernier, C.A. Van Akin*

CHED 241. Tris-heteroleptic ruthenium(II) polypyridyl complex: synthesis, characterization, redox, and photochemical studies. *J. Marold, A. Jain*

CHED 242. Boron and nitrogen functionalized hierarchical porous carbon for supercapacitor. *A.M. Alfaraidi, T. Baroud, E.P. Giannelis*

CHED 243. Synthesis of oxygen-donating scorpionate ligands for use in small scale biomimetic models of sulfite oxidase. *N. Fitzpatrick, M. Youmans*

CHED 244. Role of confinement for host-guest interactions in UiO-66. *E.H. Adillon, Z. Li, T. Royder, J.A. Byers, C. Tsung*

CHED 245. Synthesis and crystal structure of several M₃Ga(BO₃)₂ homologues. *G. Brown, R. Smith*

CHED 246. Mechanistic exploration of cation-modulated catalysis through palladium pincer complexes. *K.E. Gardner, A.H. Sullivan, A.J. Miller*

CHED 247. Nickel and ruthenium complexes of primary amido-functionalized N-heterocyclic carbene ligands. *T.V. Roach, M.L. Schmitz, V.A. Leach, J.H. DeMario, D.K. Vo, M.D. Miller, B.C. Chan, S.E. Kalman*

CHED 248. Synthesis of novel organoplatinum(IV) iodo compounds and evaluation of anticancer activity. *A.M. O'Brien, M. Cogley, A. Arabi, S. Lee, W.A. Howard*

CHED 249. Synthesis and characterization of cobalt(II) model complexes for liver alcohol dehydrogenase. *E.M. Almanza, J.R. Miecznikowski, J.P. Jasinski, M.A. Lynn, S.E. Zymont, S. Bonitatibus, R.M. Kharbouch*

CHED 250. Cobalt(II) metal ion complexes of tapa with exogenous anionic ligands bound in the H-bonding pocket. *N. Stumme, N. Sedore, A. Ellern, D.C. Swenson, M. Zart*

CHED 251. Plasma modified electrodes as a platform for immobilizing water splitting catalysts. *Y.M. Badiei, R. Rosales, C. Traba, C. Vera*

CHED 252. Unique crystalline composite displaying four primary zoning events in the solid state and based upon self-assembled, helical coordination polymers. *A. Zamurd, K. Godwin, A. Partelow, S. Seidel*

CHED 253. Preparation and acidolysis reactions of rhenium(I) complexes supported by three carbonyl ligands, an α-dimine ligand, and an alkylcarbonate ligand. *K. Chen, E. Tumbaco, C. Patel, D. Santo, A. Naeem, E. Ball, D. Naik, G.A. Moehring*

CHED 254. Covalent metal-organic networks (COMNs): 1D, 2D, and 3D solids synthesized through protecting group methods. *D. Pham, A. Kreider-Mueller, D.R. Manke*

CHED 255. Cancer selective ruthenium pro-drugs have been studied to show that pH can influence the distribution coefficient and uptake. *S. Altman, F. Qu, J. Gray, E.T. Papish*

CHED 256. Utilizing a molybdenum complex selenium scorpionate ligand for the study of sulfite oxidase. *S. Nichols, M. Youmans*

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Undergraduate Research Posters

Medicinal Chemistry

Cosponsored by MEDI and SOCED
N. Di Fabio, J. Roberts, Organizers

2:00 – 4:00

CHED 257. Chemical synthesis of tagged analogues and development of structure activity relationships around trypanosomiasis lead drug CBL0137. *B.D. Greene, E. Burchfield, K.A. Bachovchin, A. Spaulding, P. Guyett, A. Sharma, A. Purmal, B. Singh, K. Mensa-Wilmoit, M.P. Pollastri*

CHED 258. Effect of an *in vitro* human digestion on the major cannabinoids present in commercially available cannabis oils. *A.M. Gonzalez Pineiro, E.D. Reyes*

CHED 259. Using the Maquette technology to develop novel genetically-encoded voltage indicators (GEVIs). *X. Yu, M. Iwanicki, B.M. Discher*

CHED 260. Synthesis of derivations from repurposed drug leads to find a new treatment for human African trypanosomiasis. *R. Dalton, T. DeLano, R. Diaz, J.K. Fisher, E. Mavrogianaki, G. Ceballos, M. Navarro, M.P. Pollastri*

CHED 261. Synthesis and biological evaluation of analogs of a bacterial secondary metabolite for antagonism of quorum sensing phenotypes. *A. Mozzer, S.M. Meschwitz*

CHED 262. Synthesis and biological evaluation of phevalin and related pyrazinones as potential quorum sensing inhibitors. *N. Martin, S.M. Meschwitz*

CHED 263. Co-crystallization of levothyroxine with over-the-counter medication. *G. Allothman, M. Bader*

CHED 264. Biophysical studies of G-quadruplex DNA in complexes with small molecule ligands. *A. Yett, S.T. Nyovanie, L.A. Yatsunyk*

CHED 265. Design, synthesis, evaluation, and SAR development of novel small-molecule inhibitors of plasminogen activator inhibitor-1. *J. Powers, T. Lepley, M. Warnock, D.A. Lawrence, C.D. Emal*

CHED 266. Extraction of curcuminoids from the rhizomes of *Curcuma longa* via low-temperature soxhlet extraction using polar protic and polar aprotic solvents. *E.O. Wade, G. Aguilar*

CHED 267. Effect of single walled carbon nanotubes on breast cancer cell migration. *I. Velasquez, R. Sullivan, T. Hemraj-Benny, S. Dehipawala*

CHED 268. Design and synthesis of anti-inflammatory drug derivatives for potential CNS delivery. *A.J. Rice, B. Eden, W. Bowman, T. Lovett, E. Geissler, S.C. Young*

CHED 269. Synthesis and antimicrobial activity of cationic sophorolipid derivatives. *A. Martin, S. Mekala, A. Yaksic*

CHED 270. *In silico* design of aptamers targeted to β-amyloid proteins 40 and 42: An application for Alzheimer's disease. *F.A. González, C.A. Arango, Á. Barrera Ocampo*

SECTION D

*Boston Convention & Exhibition Center
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Undergraduate Research Posters

Nanochemistry

Cosponsored by SOCED
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2:00 – 4:00

CHED 271. Towards carbon based nanotechnology: Vertical translocation of potassium cations through a three-dimensional graphene pillar. *J. Almeida, A. Rodriguez, G. Blanco, S. Munoz*

CHED 272. Supramolecular metalloferene atoms: Hartree-Fock 3-21G quantum chemical analysis of endohedral guest alkali and alkaline-earth metals within a Buckycball host. *C. Luque, T. Quintero, H. Suchinsky, S. Munoz*

CHED 273. Optimizing coagulation conditions for boron nitride nanotube cryogels. *L. Quinn, S. Williams, D. Marincel, M. Pasquali*

CHED 274. Undecylenic acid-based nanocarriers for resveratrol chemotherapy. *B. Battaglia, R. Foreman, D. Sodders, T. Vu, C.E. Larrabee*

CHED 275. Microwave synthesis of ruthenium nanoparticles in the presence of polyaniline nanofibers. *K. Kim, D.M. Sarno*

CHED 276. Non-hydrolytic synthesis of bile salt encapsulated ferrite nanoparticles. *M. Johnson, V. White, P. Blount, T.M. Trad*

CHED 277. Triphenylphosphine-modified gold nanoparticles as potential chemo- and thermo-therapeutic agent. *Y. Dho, F. Benyettou, A. Trabolsi*

CHED 278. Ionic liquid-single-walled carbon nanotube based electrolytes for dye-sensitized solar cells. *R.A. Sumner, T. Hemraj-Benny, S.I. Lal-Ramnarine, J.F. Wishart*

CHED 279. Imidazole as a novel and robust gold binding group at STM-BJ method. *X. Yu, S. Smith, T. Fu, J. Xue, L. Venkataraman, S. Wei*

CHED 280. Oligocarbazole molecular wires: Synthesis and single-molecule conductance. *J. Xue, X. Yu, P. Tuttle, G.M. Florio, S. Wei*

CHED 281. Effect of oxidation of copper sulfide on cation exchange. *K. Plass, A. Unruh, B. Li*

CHED 282. Interaction of antibiotic-functionalized carbon nanotubes with antibiotic-resistant bacteria. *J. Carver, N. McCampbell, A. Simpson, M.D. Ellison*

CHED 283. Enhancing magnetically separable catalysis through the assembly of presynthesized nanoparticles on Fe/SiO₂. *T. Yom, M. Muzzio, S. Sun*

CHED 284. Photocatalytic degradation of aldrin and dieldrin by m-BiVO₄/BiOBr/Pd ternary composite. *J.B. McLemore, E.B. Miller, E. Zahran, M.R. Knecht, L.G. Bachas*

CHED 285. Studies of C60 fullerene solutions of alkanes, cycloalkanes, and vegetable oils. *L.D. Bienski, J.B. Yamouni, S.J. Clark, R.M. Rusk, V. Pham*

CHED 286. Thin-film flat panel display based on Y₂O₃:Eu³⁺ doped with Ag nanoparticles. *R.A. González León, D.M. Jiménez Martínez*

CHED 287. Investigating the interactions between imidazolium-based ionic liquids and single-walled carbon nanotubes. *K. Urena, R.A. Sumner, M. Begliarbekov, V. Narang, J.F. Wishart, S.I. Lal-Ramnarine, T. Hemraj-Benny*

CHED 288. Nanoparticles for brain drug delivery: Design, synthesis, characterization and biological evaluation. *M.F. Veloz-Castillo, J. Cordero-Arreola, S. Hidalgo-Tobón, O. Arias-Carrión, M.A. Mendez-Rojas*

CHED 289. Chemical labeling of silica (SiO₂) nanoparticles with fluorescein for neurological applications. *P. Crespo, M.F. Veloz-Castillo, L.A. García-De-La-Rosa, K. Lopez-García, R. Gutiérrez-Aguilar, M.A. Mendez-Rojas*

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Undergraduate Research Posters

Organic Chemistry

Cosponsored by SOCED
N. Di Fabio, J. Roberts, *Organizers*

2:00 – 4:00

CHED 290. Effects of increasing size of molecular framework on crystal recognition in naphthylamide quasicrystals. *M. Parks, L. Taylor, B. Wagner, K.A. Wheeler*

CHED 291. Unsupervised machine learning for novel ligand design. *A. Hsu, J.F. Hartwig, E.V. Anslyn*

CHED 292. Synthesis of fluorescent 4-amino-1,8-naphthalimide derivatives. *H.A. Huther, J.M. Zinser, D.E. Lewis*

CHED 293. Progress towards the synthesis of auxiliary molecules for stereospecific peptide ligation. *E. Stevens, M.T. Peterson, B.H. Williamson*

CHED 294. Progress toward the total synthesis of salinazinones A and B. *B. Rackley, D. Martínez-Solorio*

CHED 295. Stereoselective synthesis of 4-amino-3-hydroxybenzopyran flavonoid derivatives from chalcones. *V.P. Parise, L. Xu, Y.R. Mehta, L.N. Aldrich*

CHED 296. Facilitation of hydrolysis of a Ni-Schiff base using varied chelating agents. *M.B. Miller, S.E. Rose, G. Lengyel*

CHED 297. Scalable synthesis of rooperol and analogues. *Z. Schwartz, M. Jemal, D. Lee, S.M. Kerwin*

CHED 298. Anion-binding catalysis in enantioselective chromanone construction. *O. Kohei, Y. Guan, J. Attard, J. Hatt, S. Kondo, A.E. Mattson*

CHED 299. Extraction and isolation of secondary metabolites which exhibit activity against gram positive bacteria from anti-fungal resistant *Aspergillus i. W. Van Benschoten, S. Hein*

CHED 300. Synthesis and optimization of [3.2.1] bicyclic compounds as potential neuroprotective agents. *G. Ghuman, S.L. Maki, E.J. St. Germain, W. Bollinger, K. Dawson-Scully, S.D. Lepore*

CHED 301. Regioselective migratory insertions of ynol ethers. *M. McCallum, B.W. Michel, B.L. Taylor*

CHED 302. New reactions of cyanamides and alkyamides for the synthesis of nitrogen-containing small molecules. *S.P. Mulcahy, Y. Al-Issa, K. Medas, V. Ndahaya, G. Rainone*

CHED 303. Synthesis of aromatic belt molecules: Applications in nanoscience. *T.D. Clayton, R. Jasti*

CHED 304. Synthesis of a strained vinyl silane. *M. West, W.R. Winchester*

CHED 305. Synthesis of (+)-serantrypinone. *X. Wang, D.T. Mickles, J.R. Scheerer*

CHED 306. Synthesis and evaluation of prebiotically plausible peptides for the RNA world hypothesis. *E. Martínez Valdivia, M. Lucas, U. Müller, J. Schellinger*

CHED 307. Antimicrobial metabolites from *Hypericum brachyphyllum*. *J. Williamson, B. Doscher, K. Dieng, C. Nnoruka, C. McNeely, A. Tejada, D. Williams, O.E. Christian*

CHED 308. Facile procedure for one-pot conversion of aldehydes and ketones into 1,3-enynes. *R.R. Poveda, J. Cabezas*

CHED 309. Synthesis of small amide carrier molecules for the inhibition of lysyl oxidase. *J. Redden, D.M. Solano*

CHED 310. Can the lyophilized extract from maguery roots brew be used as a dietary supplement? *M.T. Morales, E.D. Reyes*

CHED 311. Investigation into a sequential Goldberg/Finkelstein reaction. *M.E. Carpenter, M.E. Hart*

CHED 312. Total synthesis and biological study of natural products. *C. St. Amant, M. Patel, Y. Xing*

CHED 313. Molecular recognition from quasicractic regioisomers. *E.C. Vyhmeister, A.K. Brandt, K.A. Wheeler*

CHED 314. Preparation of L- and D-vinylglycine-based building blocks for the synthesis of medically relevant complex molecules. *J. Schlosser, R. Ford, E. York, L. Sanchez*

CHED 315. Tuning chemoselectivity toward an affordable synthesis of aurantioclavine. *C. Chew, Z. Mariani, S. Scharmach, L. Sanchez*

CHED 316. Molecular recognition via shape mimicry of 3-substituted diarylamides. *J.P. Butler, K.A. Wheeler*

CHED 317. Synthesis and properties of new fluorenofluorene-based structures. *H. Hashimoto, A. Hacker, K.M. D'Ambrosio, J.E. Wood, M. Pavano, D.K. Frantz*

CHED 318. Synthesis of lactam derivatives of LamD, a cyclic signaling peptide of *Lactobacillus plantarum*. *A. Cantrel, M.A. Bertucci*

CHED 319. Stereoselective synthesis of amino acids. *J.K. Harrison, T.R. Ryder*

CHED 320. New approach to polycyclic 2-pyridone alkaloids through a Diels-Alder/retro-Diels-Alder cycloaddition. *N. Angello, R. Wiley, J.R. Scheerer*

CHED 321. Extraction characterization and evaluation of a crude organic extract of the *Algae Stypopodium zonale* as a potential source of anxiolytic agents. *N.M. Rodríguez-Rivera, R. Chiesa, C.M. Ospina*

CHED 322. Synthesis and triggered degradation of aliphatic polyesters. *K. Maziarz, K.E. Broaders*

CHED 323. Synthesis and characterization of 1-(4-(1-iminoethyl)phenyl) ethanone. *J. Robbins, A.B. Waghe*

CHED 324. Development of a biaryl oxidative coupling-based route to the anti-tumor natural products TMC-95.

C. Lynch, E. Martin, S. Burgeson, L. Sanchez

CHED 325. Developing a synthetic route to caramboxin, a rare bioactive non-peptide amino acid. *E. Spendio, C. Fritschi, A. Pascucci, L. Sanchez*

CHED 326. Polydopamine as a material for the collection of boronic esters. *E. Graham, K.E. Broaders*

CHED 327. Exploring the effect of fluorinated side chains in a family of sulfonamide ionic liquids. *J.D. Ramdihal, C. Rodríguez, K. Papacostas, E. Fernandez, E. Castner, S.I. Lall-Ramnarine, J.F. Wishart*

CHED 328. Enhanced performances of hierarchical zeolites in catalytic cyclisation of citronellal. *A.K. Shah, M.F. Jalbani*

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Undergraduate Research Posters

Physical Chemistry

Cosponsored by SOCED
N. Di Fabio, J. Roberts, *Organizers*

2:00 – 4:00

CHED 329. Ionization constant and solubility of lidocaine. *T. Haines, P.A. Brletic*

CHED 330. Numerical and experimental studies of the effect of electromagnetic field on calcium dynamics in a two-cell model. *C. Rosa, M. Moreno, S. Kadar, S. Walker, J. Fry, M. Turner*

CHED 331. Exploring the effects of gold nanoparticles binding to humic acid via fluorescence quenching. *H. Kline, B.D. Anderson*

CHED 332. Measurement of water permeability: Droplet interface bilayer as a model for cell membrane. *M.J. Morales, A. Bishop, S. Lee*

CHED 333. Interaction of small molecules with cell membrane models studied with tensiometry. *A. Gayapa, R. Warmoth, M. Iqbal, S. Lee*

CHED 334. Yolk-shell nanostructures of metal nanoparticles encapsulated in porous carbon spheres as catalyst for the oxygen reduction reaction. *C. Wahl, R. Mercado, J. Lu, S. Chen*

CHED 335. Measuring phyloquinone hydrogen bonding environments with FTIR spectroscopy and computational methods. *A.M. Hoffnagle, S. Meloni, J.M. Anna*

CHED 336. Effects of cis and trans double bonds on water permeability of monoglyceride and phospholipid membranes in the presence and absence of cholesterol: Computational studies. *J. Rosario, J. Anand, S. Lee, R. Versace*

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Undergraduate Research Posters

Polymer Chemistry

Cosponsored by PMSE, POLY and SOCED
N. Di Fabio, J. Roberts, *Organizers*

2:00 – 4:00

CHED 337. Undecylenic acid-based drug delivery system for acute myeloid leukemia. *J. Vandegrift, E. Ogle, C.E. Larrabee*

CHED 338. Thio-bromo click chemistry as a tool for the preparation of ROMP-based degradable gels. *L. Baeza, C.E. Hobbs*

CHED 339. Post-polymerization click reactions facilitated by mechanochemistry. *M. Ashlin, C.E. Hobbs*

CHED 340. Elucidating the co-dependence of collagen and fibronectin during fibrillogenesis. *J. Paten, J. Wanis, A. Figueroa-Navedo, L. Deravi*

CHED 341. Solid phase organic synthesis approach to polymers based on alternating ring opening metathesis polymerization. *I.H. Khan, N.S. Sampson*

CHED 342. Exploring hydrogen bonding of silica materials using a soluble organosilicon model compound. *K. Targos, J.R. Jagannathan, A.K. Franz*

CHED 343. Molecular dynamics: An approach for the understanding of drug delivering systems. *L.I. Gil Pineda, F.A. González, C.A. Arango, C.H. Salamanca*

TRiO & Chemistry

Sponsored by PROF, Cosponsored by CHED, MAC, WCC and YCC

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

D. C. Bromfield-Lee, P. L. Daubenmire, A. L. Marsh, *Organizers*

8:00 – 10:00

15, 21, 31, 36, 53, 55-56, 61, 69, 74, 77, 120, 130-131, 136, 150, 205-206, 213, 215, 218, 220, 267, 272, 276-278, 283-284, 286-287, 303, 331, 334. See previous listings. 353, 368, 393, 401-402, 404, 416, 422, 437, 439. See subsequent listings.

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Successful Student Chapters

Cosponsored by SOCED
N. Di Fabio, J. Roberts, *Organizers*

8:00 – 10:00

CHED 344. University of Massachusetts Lowell student chapter: A focus on interdisciplinary and faculty cooperation to supplement the undergraduate education. *J.D. Cullen, J.J. Garfield, N.J. Anderson, J.R. Walsh, M.V. Fonseca, N. Kogan*

CHED 345. California State University Northridge ACS Student Chapter. *K. Mactar, A. Zlatkin, K. Kaiser, R. Abrol*

CHED 346. ACS Qatar University Chapter: Updates on the approach of Qatar University's Chapter to empower young chemists and reach out to the community. *A.A. Said, J.J. James, A. Mahmoud, I. Gunawan, A.S. Elgendy, A.A. El-Samak, N.S. Shah, M.K. Abdelrasool, S.Y. Al-Qaradawi*

CHED 347. Resonance of chemistry in Tecnológico de Monterrey in México. *N.I. Preciado, A. Jiménez, M. Martil, A. Hurtado, A. Gonzalez, R. Espiricueta, D. Irigoyen, A. Nieto*

CHED 348. Saint Anselm College Chemistry Club: We have our ion chemistry. *E.A. Lomuscio, J. Cohen, P. Zayka, N. Eyet*

CHED 349. Promoting Green Chemistry through the Outreach Programs of the Wilkes University ACS Student Chapter. *N. Fitzpatrick, D. DeFazio, A. Black, H. Arcure*

CHED 350. Western Washington University Student Chapter of the American Chemical Society. *C. Crickmore, S. Neely, S.R. Emory, E. Raymond*

CHED 351. Don't reinvent the wheel: How to leverage collaborations and established demonstrations to create successful outreach endeavors. *T. Wrenn, Z. Alkak, C. Parrocha, D. Lau, K. Byrd*

TUESDAY MORNING

SECTION A

Seaport World Trade Center
Waterfront Ballroom 1A/1B

General Papers

General Chemistry

S. A. Fleming, *Organizer*
J. Houck, *Presiding*

8:30 Introductory Remarks.

8:35 CHED 352. Design process for a first-year block-mode general chemistry unit. *S.W. Bigger, D. Caridi, A.J. Smallridge*

8:55 CHED 353. Designing and teaching a course about characterization techniques for nanotechnology and materials science in an undergraduate institution. *A.H. Pinto*

9:15 CHED 354. Pokemon Go learn some chemistry: Applications of augmented reality to a general chemistry active-learning course. *E. Victor*

CHED/CHAS

9:35 CHED 355. Experiential learning in Honors General Chemistry with free computational resources. *A.K. Sharma*
9:55 Intermission.

10:10 CHED 356. Chemistry around the world: Coupling an at-home lab kit with an electronic laboratory notebook. *J. Houck*

10:30 CHED 357. Create chemistry: Spark student engagement with digital tools. *J. Houck*

10:50 CHED 358. Incorporation of an eBook-based laboratory manual in general chemistry courses at Merrimack College. *J.D. Blanchard, A.L. Fernandez, B. Provencher, S.M. Theberge, B. Zwickau*

11:10 Intermission.

11:25 CHED 359. Teaching college organic chemistry to elementary school students: A new model for early chemistry learning. *D.B. Fried*

11:45 CHED 360. Implementing undergraduate research as a high-impact practice. *A.E. Fischer*

SECTION B

*Seaport World Trade Center
Waterfront Ballroom 3*

GSPPC: Frontiers in Computational Chemistry: Bridging the Gap Between Theory & Experiment

Cosponsored by COMP

S. Fischer, K. Pellegrine, *Organizers, Presiding*

8:30 Introductory Remarks.

8:40 CHED 361. Recent progress on the development of advanced functional materials at IBM: Bridging the gap between theory and experiment. *G.O. Jones*

9:20 CHED 362. Monomeric polyglutamine structures that evolve into fibrils. *D. Punihaole, R.S. Jakubek, R.J. Workman, L. Marbella, P. Campbell, J.D. Madura, S.A. Asher*

10:00 Intermission.

10:10 CHED 363. Adventures with Brownian dynamics. *J.A. McCammon*

10:50 CHED 364. New methods and models for condensed phase simulation. *T.L. Head-Gordon*

SECTION C

*Seaport World Trade Center
Cambridge 1/2*

Citizens First! Using Real-World Contexts for Engaging Students in Learning Chemistry

Cosponsored by CEI

Financially supported by Strem Chemicals, Inc. G. Clark, P. L. Daubenmire, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CHED 365. Integrating ethics and social responsibility of scientists into freshman undergraduate courses. *M. Berger, R. Gurney, B. Gray*

8:55 CHED 366. Integrating technology and social media into introductory chemistry courses to create inclusive, informed, and engaged citizenry. *D. Vardar-Ulu, D. Stelzer*

9:15 CHED 367. Current science and science discussion: Two ways to help students connect chemistry to the world outside of the classroom. *J.R. Pribyl*

9:35 CHED 368. Environmental science activity cultivation project. *D.B. King, C.L. Fish, K. Aubrecht*

9:55 Intermission.

10:05 CHED 369. Using student-community engagement activities to integrate environmental context in a general chemistry course. *A.M. Fedor*

10:25 CHED 370. Full fabrication of Pb-perovskite solar cells in a general chemistry laboratory. *D.A. McCurry, S. Lee, E. Fahrenkrug, M. Kolakowski, D. Panda, S. Maldonado*

10:45 CHED 371. Natural products in fermented tea leaves are suitable to assay iron in pharmaceuticals. *C. Saenjum, W. Wongwilai, K. Kiwfo, C.H. Bergo, K. Grudpan*

11:05 CHED 372. Phosphate recovery - applied environmental technology as a relevant issue in the learning of chemistry. *I. Eilks, C. Zawada, A. Siol, O. Gulacur*

11:25 Concluding Remarks.

Broadening Participation in STEM: Empirical Studies & Models of Success

Improving Participation through Programmatic & Curricular Efforts

Sponsored by PROF, Cosponsored by CHED, MAC and WCC
Chemistry Librarians of the Future

Sponsored by CINF, Cosponsored by CHED

TUESDAY AFTERNOON

SECTION A

*Seaport World Trade Center
Waterfront Ballroom 1A/1B*

Celebrating the Success of an Exchange Program for German & American Chemistry Students

Cosponsored by IAC and YCC

Financially supported by ACS Northeastern Local Section; German Chemical Society

T. R. Gilbert, J. J. O'Neil, *Organizers*

A. A. Scholte, *Presiding*

1:30 Introductory Remarks. Peter Dorhout, Matthias Urmann.

1:40 CHED 373. Launching and sustaining the NESACS-GDCh student exchange program. *M.E. Strem, T.R. Gilbert*

2:10 CHED 374. Chemistry in Germany - educational and research opportunities: How to get connected and how to continue. *E. Kapatsina, M. Groteklaes*

2:40 CHED 375. How a 7-day exchange can make (all) the difference - a personal review. *J. Breffke*

3:10 Intermission.

3:20 CHED 376. Celebrating the success of an exchange program for German & American chemistry students. *J.J. O'Neil, F.R. Lucci*

3:30 Panel Discussion. P. Cappillino, M. Ismail, E. Lewis, E. Adaligil, C. Rowlins, G. Kim.

SECTION B

*Seaport World Trade Center
Waterfront Ballroom 3*

GSPPC: Frontiers in Computational Chemistry: Bridging the Gap Between Theory & Experiment

Cosponsored by COMP

S. Fischer, K. Pellegrine, *Organizers, Presiding*

1:30 CHED 377. Surface tension and solubility vs. hydrophobicity. *B.M. Pettitt*

2:10 CHED 378. Heavy element chemistry and peptide fragmentation: Where experiment and theory meet. *P.B. Armentrout*

2:50 CHED 379. Enhanced Monte Carlo methods for proteins and computation of absolute free energies of binding. *I. Cabeza de Vaca, Y. Qian, J.Z. Vilseck, J. Tirado-Rives, W.L. Jorgensen*

3:30 Intermission.

3:40 CHED 380. Processing simulation data to produce the observables seen by experimentalists facilitates effective collaboration. *W.C. Swope, V.A. Piunova, A.C. Carr*

4:20 CHED 381. Dynamic regulation of signaling pathways in dopamine neurons: the intracellular actions of amphetamines. *S.G. Amara*

5:00 CHED 382. Molecular dynamics and organic reaction mechanisms. *K.N. Houk*

5:40 Concluding Remarks.

SECTION C

*Seaport World Trade Center
Cambridge 1/2*

Citizens First! Using Real-World Contexts for Engaging Students in Learning Chemistry

Cosponsored by CEI

Financially supported by Strem Chemicals, Inc. G. Clark, P. L. Daubenmire, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CHED 383. Carbohydrates and cultural competence: Food for thought on developing labs for social change. *G. Clark*

1:55 CHED 384. School students assay iron with guava leaf extract combining local wisdom and green analytical methods. *W. Wongwilai, K. Kiwfo, C. Saenjum, C.H. Bergo, K. Grudpan*

2:15 CHED 385. Analytical chemistry students monitoring of Boston's Muddy River and drinking water. *A.E. Gordon*

2:35 CHED 386. Experimental-Ludic contest: "Know the Periodic Table", a Venezuelan experience. *A. Torrealba, C.A. Urbina-Blanco*

2:55 Intermission.

3:05 CHED 387. Balancing instructional and research goals in introductory chemistry and physics courses. *Y. Kholod, D. Kosenkov*

3:25 CHED 388. Chemistry + charisms: Linking lessons from introductory chemistry to the world beyond the classroom. *B.L. Haas*

3:45 CHED 389. Learning through eating: Students design a low carbon-footprint menu item. *C.H. Middlecamp, T. Bryan*

4:05 Discussion & Concluding Remarks.

Broadening Participation in STEM: Empirical Studies & Models of Success

Improving Participation through Research & Partnerships

Sponsored by PROF, Cosponsored by CHED, MAC and WCC
Chemistry Librarians of the Future

Sponsored by CINF, Cosponsored by CHED

WEDNESDAY MORNING

SECTION A

*Seaport World Trade Center
Waterfront Ballroom 1A/1B*

General Papers

Organic

S. A. Fleming, *Organizer*

K. R. Caldwell, *Presiding*

8:30 Introductory Remarks.

8:35 CHED 390. Incorporation of benchtop NMR spectroscopy into undergraduate laboratories. *J. Araneda, S. Riegel*

8:55 CHED 391. Separation and quantification of liquid mixtures by a simple, cost-efficient GC-MS system. *I.A. Beta, H.M. Gabor, B. Regel, S. Fleishner*

9:15 CHED 392. Synthesis of alkylated derivatives of hydroxamic acids via a safe, rapid microwave-based procedure suitable for the undergraduate laboratory. *C. Durand, T. Griffin-Blake, H. Shinsato, R.G. Aslanian*

9:35 CHED 393. Chemistry in the arts: An interdisciplinary look at student-synthesized azo dyes. *K.L. Yearty, C. Cortes, R.W. Morrison*

9:55 Intermission.

10:10 CHED 394. Total synthesis of muscone from the advanced organic chemistry lab. *B. Chandler*

10:30 CHED 395. Synthesis of a naturally-occurring nitro compound by electrophilic aromatic substitution. *J.M. Garcia*

10:50 CHED 396. A simple method for the visualization of chair and twist-boat transition states in torsionally controlled addition reactions. *A.J. Catino*

11:10 Intermission.

11:25 CHED 397. A report on the implementation of organic chemistry REActivities at a four-year and a two-year institution. *J.A. Cody, T.G. Goudreau Callison, J.P. Anderson, B.L. Edelbach, D. Newman, M. Jackson*

11:45 CHED 398. Straightforward measures can be used to predict and enhance student performance in the one-year organic chemistry course sequence. *K.R. Caldwell*

12:05 CHED 399. Introduction of research into a large enrollment organic chemistry lab course. *N.A. Eskew, C. Cruz*

SECTION B

*Seaport World Trade Center
Waterfront Ballroom 3*

Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond

Cosponsored by CEI

Financially supported by GCI; I&EC Green Chemistry

J. E. Wissinger, *Organizer*

E. J. Brush, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 CHED 400. Green microwave nano synthesis in undergraduate teaching labs. *G. Dusharm*

8:55 CHED 401. Low-cost experiment material for teaching of chemistry: A worthy alternative to regular laboratory material? *L. Boegge, A. Lühken*

9:15 CHED 402. A recyclable sol-gel catalyzed approach: Efficient one pot synthesis of α,α -di-halogenated ketones. *J.B. Domena, C. Chong, Y. Xing, B.P. Chauhan, Q.R. Johnson, G.K. Longia*

9:35 Intermission.

9:50 CHED 403. Bismuth subsalicylate as a green catalyst for ROTEP polymerizations in the teaching lab. *J.E. Wissinger, A.M. Luke, R. Bartz, D. Batiste*

10:10 CHED 404. Tiny solutions for big problems: Development of a nanomaterials course for high school students focused on environmental concerns. *M. Muzzio*

10:30 CHED 405. Integrating green chemistry and chemical hazard awareness into organic chemistry lab curriculum. *D. Ward, A.S. Cannon*

10:50 Intermission.

11:05 CHED 406. A progress report on a roadmap for green chemistry education. *J. MacKellar, D.J. Constable, M.M. Kirchoff*

11:25 CHED 407. Green chemistry ACS-CPT supplement: Preparing students to meet the grand challenges of sustainability. *K. Aubrecht, M. Bourgeois, E.J. Brush, J. MacKellar, J.E. Wissinger*

11:45 Discussion.

SECTION C

Seaport World Trade Center
Cambridge 1/2

Facilitating Student Success in General Chemistry I Laboratory

G. A. Brown Wright, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 CHED 408. General chemistry laboratory in the quarter format. *E.L. Lebeau*

8:55 CHED 409. Laboratory project: An activity to build critical thinking and problem-solving skills in general chemistry students. *S. Toribio, S.J. Glinias, K.E. Kristian*

9:15 CHED 410. Scaffold approach to teaching laboratory and writing skills in introductory chemistry courses. *K.C. Murphy, J.G. Quattrucci, M. Dilip*

9:35 CHED 411. Integrating authentic research, peer learning, and high-impact project work into the general chemistry laboratory. *D.R. Brodeur, D. Heilman, U. Kumar*

9:55 Intermission.

10:10 CHED 412. Designing integrated biology, chemistry, and engineering CURE and guided inquiry laboratory exercises for the general chemistry curriculum. *D.E. Felton, P.L. Hartzell, M.M. Ederer, J. Moberly, K.V. Waynant*

10:30 CHED 413. Exploring molecular origin of color through engaging introductory chemistry laboratory activities. *L. Wang*

10:50 CHED 414. Student perspectives on the helpfulness of resources provided for writing a formal general chemistry laboratory report. *G.A. Brown Wright*

11:10 Concluding Remarks.

Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in honor of Aleksandr V. Zhukhovitskiy

Sponsored by PMSE, Cosponsored by CHED⁺, POLY⁺ and PROF

WEDNESDAY AFTERNOON

SECTION A

Seaport World Trade Center
Waterfront Ballroom 1A/1B

Research in Chemistry Education

Financially supported by ACS DivCHED Committee on Chemistry Education Research

H. Sevan, J. P. Walker, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CHED 415. Students' perceptions towards inquiry-based general chemistry laboratory activities: A five-year study. *M. Shahu, S.E. Ingram, S. Synnott, L. Winchester, Y. Tong*

2:15 CHED 416. Identifying and studying some of the students' misconceptions in Organic Chemistry. *I. Salame*

2:35 Intermission.

2:45 CHED 417. Metacognition in chemical education: Theory and practice. *R. Lavi, G. Schwartz, Y. Dori*

3:05 CHED 418. The Metacognitive Exam Tool to Help You Learn (METHYL) project for sophomore organic chemistry. *S. Chamberland, M. Wathen, T. Morris*

3:25 CHED 419. Why do chemists and chemical engineers choose these professions. *Y.J. Dori, O. Shav-Artza*

3:45 Intermission.

3:55 CHED 420. Chemistry teachers' intentions and students' epistemic agency in communicative patterns in the classroom. *H. Sevan, O. Aguiar*

4:15 CHED 421. Understanding authorship in undergraduate research partnerships. *L. Abbott, A. Andes, A. Pattani, P.A. Mabrouk*

4:35 CHED 422. Undergraduate students' goals and achievement strategies for laboratory work: A quantitative study. *S. Santos-Diaz, S. Hensiek, T. Owings, M.H. Towns*

4:55 Concluding Remarks.

SECTION B

Seaport World Trade Center
Waterfront Ballroom 3

Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond

Cosponsored by CEI and IAC
Financially supported by GCI; I&EC Green Chemistry
E. J. Brush, *Organizer*
J. E. Wissinger, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CHED 423. UN sustainable development goals for the chemistry enterprise: Challenges and opportunities. *E.J. Brush*

1:55 CHED 424. Towards meeting the UN sustainability goals through green chemistry. *N. Hawkins*

2:35 Discussion.

2:55 Intermission.

3:10 CHED 425. An international perspective on incorporating sustainability education into science education during the UN Decade of Education for Sustainable Development. *G.M. Bodner*

3:30 CHED 426. A campus sustainability undergraduate research program for chemistry students. *J.E. Kenny, A. Rappaport, P. Milne, J. Ng*

3:50 CHED 427. 15 years of green: The green chemistry curriculum at Worcester State University. *M. Dilip, K.C. Murphy, J. Nichols, M. Kerr*

4:10 CHED 428. Consumer choices and the environmental effects. *K.C. Murphy, J.G. Quattrucci, M. Dilip, J.R. Andreatta, S. Mitroka*

4:30 Discussion.

SECTION C

Seaport World Trade Center
Cambridge 1/2

Alternate Assessment Methods

M. C. Koether, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CHED 429. Specifications grading in organic chemistry: Three years of student feedback. *J.R. Ring*

1:55 CHED 430. Organic chemistry lecture and laboratory with specification grading. *J. Houseknecht*

2:15 CHED 431. Comparison of specifications grading techniques at two different institutions and two different courses. Comparing organic chemistry and general chemistry. *W. Hollinsed*

2:35 CHED 432. Specifications grading in second semester general chemistry: Results of multiple attempts of quizzes throughout the semester. *M.C. Koether*

2:55 Intermission.

3:10 CHED 433. Resurrection points: A look at several decades of using a grading system to encourage students to learn material and not worry about points. *J.R. Pribyl, M. Hadley*

3:30 CHED 434. Using an oral exam to enhance student learning and communication skills in an undergraduate instrumental analysis course. *K.S. Wendling*

3:50 CHED 435. An application of ChemAxon's platform for education. *A.D. Costache, E. Biró, E. Hoffmann, P. Szakács*

4:10 CHED 436. Alternate assessments: On-line discussion boards in the sciences. *M.C. Koether*

THURSDAY MORNING

SECTION A

Seaport Boston Hotel
Seaport Ballroom C

General Papers

Lab Oriented Issues

S. A. Fleming, *Organizer*
S. K. Hurst, *Presiding*

8:30 Introductory Remarks.

8:35 CHED 437. A highly interdisciplinary cyclodextrin-MOF experiment for the senior undergraduate chemistry laboratory. *M. Levine, D.R. Jones, T. Mako*

8:55 CHED 438. Symmetry and spectroscopy of paper models of fullerenes C₆₀-C₈₄ and Johnson solids. *S.K. Hurst*

9:15 CHED 439. Redeveloping chemistry laboratory exercises to bring state-of-the-art novel chemistry and mass spectrometry into the teaching laboratory. *P.W. Fedick, R.M. Bain, K. Bain, R. Schrader, T. Mehari, C. Pulliam, S.T. Ayrton, R.G. Cooks*

9:35 CHED 440. Teaching chemistry to an elementary school student, what works and what does not. *A.S. Bayden*

9:55 Intermission.

10:10 CHED 441. Role-playing to replace the traditional laboratory experiment. *N. O'Connor, K. Mahmud*

10:30 CHED 442. From the source: Student-centered guest lecturing in a chemical crystallography class. *S. Zheng, Y. Chen, X. Wang, C. Hoffmann, A. Volkov*

10:50 CHED 443. Community college outreach through crystallographic research. *D.R. Manke*

11:10 CHED 444. Using crystal structure data to introduce bioinorganic chemistry in a foundational inorganic chemistry course. *A.L. Fernandez*

11:30 Intermission.

11:45 CHED 445. Fluorescent universal pH indicator synthesized by students: A multi-level educational tool. *M. Morgan, G. Ferguson*

12:05 CHED 446. The kinetics of the cis-to-trans thermal isomerization of disperse orange: A simple undergraduate experiment for the physical chemistry lab. *F. Bou-Abdallah*

12:25 CHED 447. Development modifiable laboratory experiments for ligand screening of proteins using differential scanning fluorimetry. *P.N. Brady*

12:45 CHED 448. Petrochemical incorporation to grow material and characterization curricula: A new attempt to serve dual educational functions. *M. Jiang*

CHAS

Division of Chemical Health and Safety

D. Decker and J. Pickel, *Program Chairs*

SUNDAY MORNING

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

SUNDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

Ask Dr. Safety: Safety Considerations in the Cannabis Industry

Cosponsored by CCS⁺

H. J. Elston, N. R. Langerman, *Organizers, Presiding*

3:30 Introductory Remarks.

3:35 CHAS 1. Cannabis Safety Subdivision - Promoting public safety through sensible science. *A. Pham*

4:00 CHAS 2. Anecdotal cannabis: Stories from the road. *L. Pelger*

4:25 CHAS 3. Ask Dr. Safety: Chemical and occupational safety in the cannabis industry. *H.J. Elston, N.R. Langerman*

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Innovations in Chemistry Supporting Strategic Human Health Risk Assessments

Sponsored by AGRO, Cosponsored by CHAS and TOXI

MONDAY MORNING

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production

Cosponsored by AGFD

N. Arora, B. J. Greene, J. Marcu, J. Payack, *Organizers*
E. M. Pryor, *Organizer, Presiding*
B. Greene, A. Pham, *Presiding*

8:00 Introductory Remarks.

8:05 CHAS 4. Complicating what is simple vs. simplifying what is complex: The two camps in cannabis safety. *M. Lewis*

8:30 CHAS 5. Bridging the cannabis safety gap: The need for an institute on cannabis for mental health and well-being. *J. Roberts, J. Marcu, M. Wolfe*

8:55 CHAS 6. Cannabis extraction and laboratory safety. *J. Marcu, E.M. Pryor*

CHAS/CINF

9:20 CHAS 7. The role of laboratories in ensuring safe and effective cannabis for consumers. *J. Churchill, E.M. Pryor*

9:45 CHAS 8. Heavy metal contaminants in cannabis: Regulation to remediation. *C.J. Hudalla*

10:10 Intermission.

10:20 CHAS 9. Alternatives to address cannabis intoxication in the workplace and clinical trials. *J. Marcu, R.W. Phifer*

10:45 CHAS 10. Testing cannabis in Massachusetts: Effects of sampling and testing methodology on a budding industry. *B. Cassidy, E.M. Pryor*

11:10 CHAS 11. Cannabis: The EXIT drug. *U. Dhanabalan, E.M. Pryor*

11:35 CHAS 12. Further evidence of the utility of cannabis as a substitute for opioids in pain management. *E.M. Pryor*

Reducing Uncertainty in Modeling the Environmental & Human Health Exposure to Agrochemicals

Sponsored by AGRO, Cosponsored by CHAS and ENVR

MONDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

Nanomaterials: Applications, Safety Considerations, & Implications for Human Health & the Environment

Cosponsored by CCS² and I&EC
D. M. Decker, J. M. Pickel, *Organizers*

1:00 Introductory Remarks.

1:05 CHAS 13. Role of the National Nanotechnology Initiative in the Safe and Responsible Development of Nanotechnology. *M.A. Meador*

1:30 CHAS 14. Nanotechnology: Where is it Today and is EHS a Part of Successful Commercialization. *C.L. Geraci*

1:55 CHAS 15. Back from the future: What nanotechnology can teach us about chemical safety today. *K.M. Kulinski*

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

CHAS Awards Symposium

Cosponsored by CCS
D. B. Walters, *Organizer*

2:30 Introductory Remarks.

2:35 CHAS 16. Looking forward: Fifty years experience in chemical safety. *N.R. Langerman*

3:00 CHAS 17. Zooming out: The future of chemical-research health and safety through a wide-angle lens. *K.J. Brown*

3:25 CHAS 18. Innovation transforming lives through the power of clean water. *D.G. Schmidt*

3:50 CHAS 19. Yale's Safety Advisor Model for Supporting and Integrating Safety into Research. *P.A. Reinhardt*

4:15 CHAS 20. Fostering a culture of safety at the University of North Carolina at Chapel Hill. *C.R. Brennan, N.A. Eskew*

4:40 CHAS 21. Dow Lab Safety Academy: Lessons learned & future opportunities. *L. Seiler*

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

D. M. Decker, J. M. Pickel, *Organizers*
8:00 – 10:00

CHAS 22. Programmatic method for classifying chemicals according to California fire code. *K.N. Lamb, R.N. Vernon*

CHAS 23. Chemical safety for laboratory animal handlers. *C.R. Brennan*

CHAS 24. The development of a high pressure hydrogen gas generator as a replacement for hydrogen cylinders in the chemistry laboratory. *R.V. Jones, F. Darvas*

CHAS 25. Division of Chemical Health and Safety information poster. *J.M. Pickel*

TUESDAY MORNING

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

Learning Laboratory Safety through Storytelling

Cosponsored by CCS²
R. Stuart, *Organizer*
S. B. Sigmann, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 CHAS 26. Enhancing the culture of safety through good storytelling. *M.B. Koza*

9:30 CHAS 27. How personal stories can support safety training. *D.M. Decker*

9:55 CHAS 28. What's the point of your story?
K.P. Fivizzano

10:20 Intermission.

10:35 CHAS 29. Urban legends, fairytales and documentaries: Effective storytelling for safety education. *H. Weizman*

11:00 CHAS 30. Playing with fire. *S.B. Sigmann*

11:25 CHAS 31. An unknowing, unthinking, uncaring graduate student learns a lesson about safety. *R.H. Hill*

TUESDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

Learning Laboratory Safety through Storytelling

Cosponsored by CCS
S. B. Sigmann, *Organizer*
R. Stuart, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CHAS 32. The genres of scientific storytelling. *R. Stuart*

2:00 CHAS 33. Turning safety observations into messages. *T.C. Gallagher, R. Brian, R. Stuart*

2:25 CHAS 34. From storytelling to storymaking. *R.M. Izzo*

2:50 CHAS 35. Preserving Institutional History of Chemical Incidents. *P.A. Reinhardt*

3:15 Intermission.

3:30 CHAS 36. Using risk management techniques to improve situational awareness and accident reduction. *R. Lippman*

3:55 CHAS 37. Chemical safety information in PubChem. *J. Zhang, P. Thiessen, A. Gindulyte, E. Bolton*

4:20 CHAS 38. Using the chemical inventory system to create research articles that include safety information. *R.N. Vernon, K.N. Lamb*

WEDNESDAY MORNING

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production

Cosponsored by AGFD
N. Arora, B. J. Greene, J. Marcu, J. Payack, E. M. Pryor, *Organizers*

K. Boyar, B. Greene, A. Pham, *Presiding*

8:00 Introductory Remarks.

8:05 CHAS 39. The role of innovative technologies in protecting cannabis consumer safety. *J. Appen, J. Siegel*

8:30 CHAS 40. Latest advances in cannabis production processes. *M. Roggen*

8:55 CHAS 41. From cannabinoids and terpenes to medicine and open data. *N. Arora*

9:20 CHAS 42. Exploring innovations in third party support of regulatory compliance and chemical safety in cannabis laboratories. *E.M. Pryor, J. Marcu, A. Martinez*

9:45 Intermission.

10:00 CHAS 43. Extraction and purification of research-grade cannabinoids with supercritical CO₂. *N. Mortillaro*

10:25 CHAS 44. The DRUID app to measure drug-induced impairment. *M. Milburn, E.M. Pryor*

10:50 CHAS 45. Medical cannabis pharmacogenomics. *T. Parr, J. Marcu*

11:15 CHAS 46. New Perspectives on Cannabis and the Endocannabinoids. *A. Makriyannis, E.M. Pryor*

11:50 Concluding Remarks.

WEDNESDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Seaport Ballroom A

Cannabis Nanotechnology, Genetics & Innovative Trends in Cannabis Production

Cosponsored by AGFD
N. Arora, B. J. Greene, J. Marcu, J. Payack, E. M. Pryor, *Organizers*
J. Bramante, B. Greene, A. Pham, *Presiding*

1:30 Introductory Remarks.

1:35 CHAS 47. THC and its metabolites in blood: Public safety, regulatory, and scientific challenges in the context of cannabis DUI. *A. Pham*

2:05 CHAS 48. Innovations in cannabis potency testing for the non-expert. *J. Payack, M. Diaz, E.M. Pryor*

2:35 CHAS 49. Terpene chemistry and thermal byproducts. *R.M. Strongin, J. Meehan-Attrash*

3:05 Intermission.

3:20 CHAS 50. Terpene therapy. *R.D. Zaklin*

3:50 CHAS 51. Analytical SFC applications for the cannabis industry. *J.P. Preston, S. Sadjadi*

4:20 CHAS 52. Functionally high: Innovations in the pharmacological foundations of cannabis chemovars. *E.B. Russo, M. Lewis, K. Smith*

4:50 Concluding Remarks.

Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer

Sponsored by AGRO, Cosponsored by AGFD, CHAL, CHAS and ENVR

CINF

Division of Chemical Information

R. Bienstock, Program Chair

SOCIAL EVENTS:

Reception & Poster Session, 6:30 PM: Sun
Luncheon, 12:00 PM: Tue

BUSINESS MEETINGS:

Committee Meetings, 12:30 PM: Sat

SUNDAY MORNING

SECTION A

Westin Boston Waterfront
Harbor Ballroom II

Chemoinformatic Approaches to Enhance Drug Discovery Based on Natural Products

J. L. Medina-Franco, *Organizer, Presiding*
N. Sánchez-Cruz, *Presiding*

8:30 Introductory Remarks.

8:35 CINF 1. Exploiting PubChem for drug discovery based on natural products. *S. Kim, E. Bolton*

9:00 CINF 2. Connecting traditional with evidence-based medicine. *T. Polgar*

9:25 CINF 3. Development of a "drug-like" natural product library from the East African flora. *C. Simoben, F. Ntie-Kang, W. Sippl*

9:50 Intermission.

10:05 CINF 4. Development of an innovative database to uncover chemical and biological information from Brazilian biodiversity. *A.D. Andricopulo, M. Valli, A. Pilon, I. Castro-Gamboa, A. Dametto, M. Pinto, R. Freire, V.D. Bolzani*

10:30 CINF 5. Search of biased mu-opioid receptor ligands from nature. *A. Madariaga, A.F. Marmolejo, K. Martinez Mayorga*

10:55 CINF 6. Predicting blood-brain barrier permeability of marine-derived kinase inhibitors. *F. Plisson, A.M. Piggott, N. Hamilton, R.J. Capon*

11:20 CINF 7. Template-free 3D structure generation and conformer search: Complex natural products and macrocycles. *A.N. Jain, A.E. Cleves*

SECTION B

Westin Boston Waterfront
Lewis

Reporting & Reproducibility of Chemistry Research Data

Cosponsored by ETHX and ORGN
Financially supported by Chemical Structure Association Trust; IUPAC Committee on Publications and Cheminformatics Data Standards (CPCDS)
M. G. Hicks, H. A. Lawlor, L. R. McEwen, V. F. Scalfani, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CINF 8. The internet of molecules. *S. Boyer*

9:00 CINF 9. Reaction networks analysis for algorithmic process development. *A. Lapkin, P. Jacob*

9:25 CINF 10. International chemical identifier for reactions (RInChI): The key to managing reaction databases effectively. *J.M. Goodman, G. Blanke, G. Grethe, H. Kraut*

9:50 CINF 11. De facto standard or a free-for-all? A benchmark for reading SMILES. *N. O'Boyle, J. Mayfield, R.A. Sayle*

10:15 Intermission.

10:30 CINF 12. Reporting crystal structure data: Recent insights. *C. Tovee, S. Ward, A. Sarjeant, I. Bruno*

10:55 CINF 13. Extending machine learning capabilities for semi-automated annotation of biological assays in BioAssay Express. *P. Gedeck, H. McGinty, B.A. Bunin, A. Clark*

11:20 CINF 14. Blockchain for research. *J. van Rossum*

11:45 Discussion.

SECTION C

Westin Boston Waterfront
Harbor Ballroom III

Chemical Structure Searching for Patent Information

Cosponsored by CHAL and CPRM

R. J. Bienstock, *Organizer*

E. N. Cheeseman, M. McBride, E. S. Simmons, *Organizers, Presiding*

8:30 Introductory Remarks.

8:45 CINF 15. Chemical structure searching for patents through the years. *E.S. Simmons*

9:15 CINF 16. Same structure, different answers: Examining the impact of chemical indexing policy on retrieval of patent references. *S.R. Adams*

9:45 CINF 17. Beyond the search: Deep analysis of chemical patents and Markush claims. *J. Biagi, A. Figyelmesi*

10:15 Intermission.

10:30 CINF 18. State of chemical structure searching 30 years on OR The human element – the power behind structure searching in the CAS content collection. *E.N. Cheeseman*

11:00 CINF 19. Chemical indexing and searching with Orbit Chemistry modules. *A. Kandi-Masakidi*

11:30 CINF 20. Chemistry in patents: Unique perspectives within Derwent World Patents Index. *S. Hajkowski*

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS¹, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

SUNDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Harbor Ballroom II

Cheminformatic Approaches to Enhance Drug Discovery Based on Natural Products

J. L. Medina-Franco, *Organizer, Presiding*
N. Sánchez-Cruz, *Presiding*

1:30 CINF 21. Natural product databases: Chemical space, diversity and suitability of virtual screening. *F. Saldivar, J. Medina Franco*

1:55 CINF 22. Characterization of the chemical space of purchasable natural products. *Y. Chen, C. de Bruyn Kaps, M. Garcia de Lomana, N. Friedrich, J. Kirchmair*

2:20 CINF 23. Exploring natural product analogs in chemical universe databases. *M. Awale, J. Reymond*

2:45 Intermission.

3:00 CINF 24. OpenZika: Discovery of new antiviral candidates against Zika virus. *M. Mottin, A.S. Carvalho, C.C. Melo-Filho, B.J. Neves, R.C. Braga, C.S. Lima, S. da Silva, J.F. Shimizu, N.C. Mesquita, L.O. Regasini, A.C. Jardim, E. Muratov, G. Oliva, A.L. Perryman, S. Ekins, C.H. Andrade*

3:25 CINF 25. Designing synthetically accessible natural-product mimetics by machine learning. *G. Schneider, L. Friedrich, F. Grisoni, D. Merk*

3:50 CINF 26. Similarity search and pharmacophore modeling approaches to aid natural products drug discovery against tropical infectious diseases. *E. Pavadai, G. Kaur, P. Mutai, K. Chibale*

4:15 CINF 27. Identification of bichalcones as natural product sirtuin inhibitors by virtual screening and *in vitro* testing. *B. Karaman, Z. Alhalabi, S. Swyter, S. Mihigo, K. Andrae-Marobela, M. Jung, W. Sippl, F. Ntie-Kang*

4:40 Concluding Remarks.

SECTION B

Westin Boston Waterfront
Lewis

Reporting & Reproducibility of Chemistry Research Data

Cosponsored by ETHX and ORGN

Financially supported by Chemical Structure Association Trust; IUPAC Committee on Publications and Cheminformatics Data Standards (CPCDS)
M. G. Hicks, H. A. Lawlor, L. R. McEwen, V. F. Scalfani, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CINF 28. Assessing the quality of scientific data. *J. Rumble*

2:00 CINF 29. Scope of ELNs and repositories to improve scientific documentation and reporting: Examples taken from the Chemotion-ELN and Chemotion-Repository. *N. Jung, P. Tremouilhac, S. Braese*

2:25 CINF 30. Bottom-up training in reproducible research: Undergraduate level approaches. *A.C. Evans*

2:50 Intermission.

3:05 CINF 31. Reproducibility in organic syntheses. *R.L. Danheiser*

3:30 CINF 32. Progress in delivering transparency in research data by the National Center for Computational Toxicology at the US EPA. *A.J. Williams, J. Edwards, C. Grulke, J. Cowden*

3:55 CINF 33. Better reporting for better measurements: Enzyme kinetics as a case study. *W. Stroberg, S. Schnell*

4:20 CINF 34. Networking chemically capable robots using Twitter for RealTimeChem. *L. Cronin, D. Caramelli, D. Salley*

4:45 Discussion.

SECTION C

Westin Boston Waterfront
Harbor Ballroom III

Chemical Structure Searching for Patent Information

Cosponsored by CHAL and CPRM

R. J. Bienstock, *Organizer*

E. N. Cheeseman, M. McBride, E. S. Simmons, *Organizers, Presiding*

1:30 Introductory Remarks.

1:45 CINF 35. Structure searching for patent information: The need for speed. *J. Mayfield, N.M. O'Boyle, R.A. Sayle*

2:15 CINF 36. Pros and cons of 22 million patent-extracted structures in PubChem. *C. Southan*

2:45 CINF 37. Automating chemical structure and inhibition data extraction from patents: A text mining approach. *A. Hinton*

3:15 Intermission.

3:30 CINF 38. Searching for patent information in PubChem. *S. Kim, P. Thiessen, A. Gindulyte, E. Bolton*

4:00 CINF 39. Navigating around patented routes with the help of computer-driven retrosynthetic analysis. *K. Molga, P. Dittwald, B. Grzybowski*

4:30 CINF 40. Software for presenting results of chemical structure searches. *J.A. Willmore*

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS¹, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

1:30 CINF 21. Natural product databases: Chemical space, diversity and suitability of virtual screening. *F. Saldivar, J. Medina Franco*

1:55 CINF 22. Characterization of the chemical space of purchasable natural products. *Y. Chen, C. de Bruyn Kaps, M. Garcia de Lomana, N. Friedrich, J. Kirchmair*

2:20 CINF 23. Exploring natural product analogs in chemical universe databases. *M. Awale, J. Reymond*

2:45 Intermission.

3:00 CINF 24. OpenZika: Discovery of new antiviral candidates against Zika virus. *M. Mottin, A.S. Carvalho, C.C. Melo-Filho, B.J. Neves, R.C. Braga, C.S. Lima, S. da Silva, J.F. Shimizu, N.C. Mesquita, L.O. Regasini, A.C. Jardim, E. Muratov, G. Oliva, A.L. Perryman, S. Ekins, C.H. Andrade*

3:25 CINF 25. Designing synthetically accessible natural-product mimetics by machine learning. *G. Schneider, L. Friedrich, F. Grisoni, D. Merk*

3:50 CINF 26. Similarity search and pharmacophore modeling approaches to aid natural products drug discovery against tropical infectious diseases. *E. Pavadai, G. Kaur, P. Mutai, K. Chibale*

4:15 CINF 27. Identification of bichalcones as natural product sirtuin inhibitors by virtual screening and *in vitro* testing. *B. Karaman, Z. Alhalabi, S. Swyter, S. Mihigo, K. Andrae-Marobela, M. Jung, W. Sippl, F. Ntie-Kang*

4:40 Concluding Remarks.

4:45 Discussion.

4:50 CINF 31. Reproducibility in organic syntheses. *R.L. Danheiser*

5:00 CINF 32. Progress in delivering transparency in research data by the National Center for Computational Toxicology at the US EPA. *A.J. Williams, J. Edwards, C. Grulke, J. Cowden*

5:15 CINF 33. Better reporting for better measurements: Enzyme kinetics as a case study. *W. Stroberg, S. Schnell*

5:30 CINF 34. Networking chemically capable robots using Twitter for RealTimeChem. *L. Cronin, D. Caramelli, D. Salley*

CINF 47. Leveraging IUPAC recommendations for the ontological description of PubChem Data. *K. Skinner, J. Rotne, S. Bagdadi, S.J. Chalk*

CINF 48. Text mining the IUPAC recommendations: Opportunities for knowledge discovery. *J. Rotne, S.J. Chalk*

CINF 49. Symmetry and chirality analysis of substituted ferrocenes. *A.W. Kaspi-Kaneti, I. Tuvi-Arad*

CINF 50. Cheminformatics-based differential modeling of dynamic ERK1/2-inhibitor interactions. *J. Ash, J. Hughes-Oliver, D. Fouches*

CINF 51. Data integration and fragment analysis reveal important structural motifs for ligand selectivity among hepatic organic anion transporting polypeptides. *A. Türkova, B. Zdrzil*

CINF 52. Development of a taxonomy and indexing policy for InChI open education resources and publications. *V.F. Scalfani, R.E. Belford*

CINF 53. Supporting the assessment of the purging of potential mutagenic impurities via analysis of known reactions. *S.J. Webb, M. Burns, E. Rosser*

CINF 54. SynJet: A novel chemical dispensing platform for high throughput reaction screening and optimization. *J.D. White, J.P. Malerich, S. Mallya, D. Stout, B. McCoy, D. Krieger, N. Collins*

MONDAY MORNING

SECTION A

Westin Boston Waterfront
Harbor Ballroom II

Ethics of Data Sharing

Cosponsored by ETHX²

J. N. Currano, P. A. Mabrouk, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CINF 55. Research integrity: Perspectives from the NSF Office of Inspector General. *J. Krall*

9:00 CINF 56. Connecting the dots between data management and research integrity. *S. Moore*

9:25 CINF 57. Long term viability of computational chemistry/biology research. *K.M. Merz*

9:50 CINF 58. Social aspects of chemical safety information. *L.R. McEwen, R. Stuart*

10:15 Intermission.

10:25 CINF 59. Computational analysis of publications' texts for bioassay protocol classification. *O. Tarasova, I.S. Mayorov, D. Filimonov, V. Poroiuk, I. Mayzus, A. Rzhetsky*

10:50 CINF 60. Data sharing: Ethics in research. *K.M. Elkins*

11:15 CINF 61. Crystallographic crime: Detection and prevention of fake data. *A. Sarjeant, I. Bruno*

11:40 CINF 62. Chemistry data: Distortion and dissemination in the internet era. *A.J. Williams*

12:05 Discussion.

12:25 Concluding Remarks.

SECTION B

Westin Boston Waterfront
Lewis

Publishing Chemical Data

Cosponsored by ETHX and ORGN

Financially supported by Chemical Structure Association Trust; IUPAC Committee on Publications and Cheminformatics Data Standards (CPCDS)
M. G. Hicks, H. A. Lawlor, L. R. McEwen, V. F. Scalfani, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CINF 63. Publication of raw and curated NMR spectroscopic data for organic molecules. *C. Steinbeck*

9:00 CINF 64. Publishing spectral data in the cloud. *G.M. Banik, K. Kunitsky, M. D'Souza, T. Abshear*

9:25 CINF 65. Flow of experimental thermophysical and thermochemical data through the NIST Thermodynamics Research Center. *D. Riccardi, A. Kazakov, S. Townsend, V. Diky, C. Muzny, K. Kroenlein*

9:50 CINF 66. Web Force-Field (WebFF) Project: Molecular dynamics force-field repository for soft materials at multiple levels of granularity. *F.R. Phelan, H. Sun*

10:15 Intermission.

10:30 CINF 67. Reciprocal journal-to-chemistry connectivity in PubChem from the IUPHAR/BPS Guide to Pharmacology and other sources. *C. Southan, J.L. Sharman, E. Faccenda, A.J. Pawson, S.D. Harding, J.A. Davies*

10:55 CINF 68. Open data in chemistry: The fast track to scientific content. *J. Eiblmaier, D. Geppert, H. Saller*

CINF/TOXI

11:20 CINF 69. Research data management using FAIR data repository with integrated machine learning. *V. Tkachenko, B. Sattarov, A. Korotcov, R. Zakharov*

11:45 CINF 70. SynOne - The use of an expert-defined chemical-compound class taxonomy to map organic synthesis articles from the chemistry literature. *F. Shortt de Hernandez, T. Menke, J. Rochlitz*

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

MONDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Harbor Ballroom II

Where are the Standards: Biologics Registration & HELM

Representation of Biologics: Informatics Standards & Challenges

C. Bellamy, E. Bolton, D. Deng, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CINF 71. HELM: Continuing to set the standard for biomolecular representation. *S. Rotstein*

2:00 CINF 72. Current development and new challenges of HELM representation. *D. Deng, T. Yuan, J. Lee, R. Hotchandani*

2:25 CINF 73. Registering chemically modified oligonucleotides: Implementations and challenges. *Y. Potier*

2:50 Intermission.

3:00 CINF 74. Similarity analysis of oligonucleotides based on HELM notation. *M. Weisser*

3:25 CINF 75. monomer.org: The global hub for (bio) polymer informatics. *D.J. Milton*

3:50 CINF 76. Trials and tribulations of curating peptide and antibody ligands for the IUPHAR/BPS Guide to Pharmacology. *C. Southan, J.L. Sharman, E. Faccenda, A.J. Pawson, S.D. Harding, J.A. Davies*

4:15 Intermission.

4:25 CINF 77. Building a bridge between human-readable and machine-readable representations of biopolymers. *N. O'Boyle, R.A. Sayle*

4:50 CINF 78. Bridging the gap between small molecule and biologics editing: Drawing, viewing and sharing complex biomolecules with BioEddie and BiomoleculeToolkit. *A.D. Costache, R. Knispel*

5:15 Concluding Remarks.

SECTION B

Westin Boston Waterfront
Lewis

Publishing Chemical Data

Cosponsored by ETHX and ORGN
Financially supported by Chemical Structure Association Trust, IUPAC Committee on Publications and Cheminformatics Data Standards (CPCDS)
M. G. Hicks, H. A. Lawlor, L. R. McEwen, V. F. Scalfani, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CINF 79. Publishing chemical data in public data repository. *J. Zhang, P. Thiessen, A. Gindulyte, E. Bolton*

2:00 CINF 80. ChEMBL - encouraging deposition of drug discovery data. *A. Gaulton, P. Bento, J. Chambers, E. Félix, A. Hersey, D. Mendez, J.F. Mosquera, P. Putowo, M. Nowotka, A. Leach*

2:25 CINF 81. Data sharing and publication at NIST. *R.J. Hanisch*

2:50 CINF 82. Publishing chemical data sustainably: A crystallographic case study. *I. Bruno, A. Sarjeant*

3:15 CINF 83. Documenting chemical data. *P. Linstrom*

3:40 Intermission.

3:55 CINF 84. Profiling common types of data in chemistry research articles: What has changed in five years? *Y. Li*

4:20 CINF 85. Publication data standards and Supporting Information review at *Organic Letters*. *A.M. Hunter*

4:45 CINF 86. Sustainable processes for chemical data publishing - our experiences as a society publisher. *R. Kidd, G. Jones*

5:10 CINF 87. Enabling FAIR data in the Earth and space sciences. *S. Stall, K. Lehnert, L. Wyborn, E. Robinson, H. Graves, M. Parsons, B. Hanson, J. Cutcher-Gershenfeld, B. Nosek, L. Yarmey*

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

R. J. Bienstock, *Organizer*

8:00 - 10:00

41-48, 50-54. See previous listings.

TUESDAY MORNING

SECTION A

Westin Boston Waterfront
Harbor Ballroom II

Skolnik Symposium: De Novo Design

G. Schneider, *Organizer, Presiding*

9:00 CINF 88. Molecular recognition studies to advance structure-based drug design. *F.N. Diederich*

9:25 CINF 89. Computer-aided discovery of enzyme inhibitors. *W.L. Jorgensen*

9:50 CINF 90. Massive computational docking experiments to identify noble gases target for new 'atomic drugs'. *D.A. Winkler, A. Thornton, G. Farjot, I. Katz*

10:15 Intermission.

10:30 CINF 91. Progression saturation analysis of analog series using virtual candidate compounds. *J. Bajorath*

10:55 CINF 92. Novel method proposing chemical structures with desirable profile of activities based on chemical and protein spaces. *K. Funatsu*

11:20 CINF 93. Chemography: Toward "universal" maps of drug-like space. *A. Varnek*

SECTION B

Westin Boston Waterfront
Lewis

Chemistry Librarians of the Future

Cosponsored by CHED

J. R. Garritano, L. R. McEwen, V. F. Scalfani, *Organizers, Presiding*

8:20 Introductory Remarks.

8:25 CINF 94. History and perspective of chemical information services: Time for a return to the library chemist. *V.F. Scalfani*

8:50 CINF 95. Reimagining chemistry librarianship: From the bench to the stacks. *N. Ruhs*

9:15 CINF 96. Changing the landscape of the chemistry librarianship. *N. Bharti*

9:40 Intermission.

9:55 CINF 97. Ten plus years as a chemistry librarian, where have they gone? *J. Carver*

10:20 CINF 98. Pre- and post-research group selection: Evolving roles for chemistry librarians. *K. Deards, S. Jeong*

10:45 CINF 99. Nobody else is doing it: Teaching opportunities for the chemistry librarian of the future. *J.N. Currano*

11:10 CINF 100. New models for chemistry library impacts through an international symposium. *M.C. Schlembach, B.J. McCall*

11:35 Discussion.

TUESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Harbor Ballroom II

Skolnik Symposium: De Novo Design

G. Schneider, *Organizer, Presiding*

1:30 CINF 101. Artificial Intelligence in drug design. *K. Baringhaus*

1:55 CINF 102. Robot scientists: Automating drug design. *R.D. King*

2:20 CINF 103. Accelerating drug discovery through a fully automated Design-Make-Test-Analyze workflow. *M. Kossenjans*

2:45 Intermission.

3:00 CINF 104. Data-driven drug discovery and repositioning by machine learning methods. *Y. Yamanishi*

3:25 CINF 105. Pattern recognition on neuromorphic hardware inspired by the chemical sense. *M. Schmukey*

3:50 CINF 106. Rethinking molecular design. *G. Schneider*

SECTION B

Westin Boston Waterfront
Lewis

Chemistry Librarians of the Future

Cosponsored by CHED

J. R. Garritano, L. R. McEwen, V. F. Scalfani, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CINF 107. Workflows for scholarly communication and knowledge creation: Building partnership between researchers and librarians of the future. *Y. Li*

2:00 CINF 108. Chemistry librarians and disciplinary data repositories working in partnership. *I. Bruno, A. Sarjeant, L. Palumbo, C. Castle*

2:25 CINF 109. Science librarians and the future of open science. *D. Wrublewski, G.P. Clement, T.E. Morrell*

2:50 Intermission.

3:05 CINF 110. Hiring a post-doc in chemistry data curation within a research library: The strategies and complexities. *J. Laherty*

3:30 CINF 111. Chemistry librarians as future managers and leaders. *J.R. Garritano, A.B. Twiss-Brooks*

3:55 CINF 112. Building chemistry research collections in the 21st century is a cooperative, collaborative effort. *G. Baysinger*

4:20 CINF 113. Stewarding chemical research through standards development: A chemistry librarian's feast. *L.R. McEwen, E. Hepler-Smith*

4:45 CINF 114. Reaxys education. *R.E. Belford*

5:10 Discussion.

WEDNESDAY MORNING

SECTION A

Westin Boston Waterfront
Harbor Ballroom II

Move Away from the Lamppost & Find Druggable Targets

R. Guha, *Organizer*

T. I. Oprea, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 CINF 115. AI-driven target selection in drug discovery - exploring the undiscovered country. *T.I. Oprea, O. Ursu, C.G. Bologna*

9:00 CINF 116. Beyond journal articles - extracting bioactivity data from patents. *A. Gaulton, E. Cibrián Uhalte, P. Magarinos, G. Papadatos, A. Leach, T.I. Oprea*

9:25 CINF 117. Putting hard numbers on druggability: Comparing the IUPHAR/BPS Guide to Pharmacology with other chemistry-mapped sources in Swiss-Prot. *C. Southan, J.L. Sharman, A.J. Pawson, S.D. Harding, E. Faccenda, J.A. Davies*

9:50 Intermission.

10:00 CINF 118. Open targets: An innovative public-private partnership to deliver more sustainable target selection for drug discovery. *A. Leach, I. Dunham, D. Hulcoop, A. Hersey, A. Gaulton, P. Magarinos*

10:25 CINF 119. Computational methods help find chemical matter to uncover novel biology. *Y. Wang, J.L. Jenkins*

10:50 CINF 120. Integrative informatics approaches for unraveling the mysteries of rare diseases: Shedding the light on Potocki-Shaffer syndrome. *R. Hajjo*

11:15 CINF 121. How to present knowledge about dark targets from 60 data sources and 10 data types. *T. Sheils, D. Nguyen, R. Guha, N. Southall*

11:40 Concluding Remarks.

SECTION B

Westin Boston Waterfront
Lewis

Machine Learning Scoring Functions

S. Sirimulla, *Organizer, Presiding*

8:30 CINF 122. Protein-ligand absolute binding affinity prediction via 3D-convolutional neural networks. *G. De Fabritiis*

8:55 CINF 123. Two faces of machine learning scoring functions - model complexity vs feature engineering. *M. Wojcikowski, M. Kukielka, M. Stepniewska-Dziubinska, P. Siedlecki*

9:20 CINF 124. Hydrogen bonding: *Ab initio* accuracy from fast iteratometric Gaussian approximation potentials. *M. Ören, G. Csanyi, D.J. Ponting, P. Hunt, M.D. Segall*

9:45 CINF 125. Artificial intelligence for predicting molecular electrostatic potentials (ESPs): A step towards developing ESP-guided knowledge-based scoring functions. *M. Verdank, R. Lewis, A. Bender, P.C. Rathi*

10:10 Intermission.

10:20 CINF 126. Deep learning based scoring function for predicting protein-ligand binding affinities. *M. Hassan, D. Castaneda, S. Sirimulla*

10:45 CINF 127. Evaluating lead optimization performance of a structure-based convolutional neural network. *A. Heifets, M. Mysinger, I. Wallach, K.T. Nguyen*

11:10 CINF 128. Mechanism-of-action elucidation using deep convolutional neural networks. *A. Rossi, I. Wallach, M. Mysinger, K.T. Nguyen, A. Heifets*

11:35 CINF 129. Simulated playground for evaluating machine-learning algorithms for bioactivity prediction. *J. Thompson, S. Schrodli, M. Mysinger, I. Wallach*

SECTION C

Westin Boston Waterfront

Harbor Ballroom III

Semantics in Chemistry Vocabulary & Terminology

S. J. Chalk, L. R. McEwen, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 CINF 130. Semantic properties and units for chemistry. *S.J. Chalk*

9:00 CINF 131. Data standards, formal ontologies and software tools to facilitate integration, classification and modeling of drug discovery data. *S.C. Schürer, J. Zheng, J. Turner, A. Koletti*

9:25 CINF 132. Towards an IUPAC ontology for chemistry. *S.J. Chalk*

9:50 CINF 133. ChemOnt: A semantic-based ontology for chemical and biological data integration. *Y. Djaoumbou Feunang, D. Wishart, N. Karu, A. Marcu, E. Lo, A. Guo*

10:15 CINF 134. From text mining to knowledge: PubChem knowledge panels provide synopsis of chemical, gene, protein and disease term co-occurrences in biomedical literature. *L. Zaslavsky, A. Gindulyte, P. Thiessen, E. Bolton*

10:40 Intermission.

10:55 CINF 135. OntoloBridge: A semi-automated ontology update request system. *J. Turner, A. Clark, H. McGinty, B.A. Bunin, S.C. Schürer*

11:20 CINF 136. Semantic representation of crystallography experiments. *I. Bruno, A. Sarjeant*

11:45 CINF 137. Ontology design patterns for laboratory chemical process hazards. *L.R. McEwen, C. Shimizu, M. Sarkar*

12:10 Discussion.

WEDNESDAY AFTERNOON

SECTION A

Westin Boston Waterfront

Harbor Ballroom II

The More the Merrier: Combine Drugs Together

R. Guha, A. Zakharov, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 CINF 138. Understanding drug and compound combinations and modelling synergy – Methods and applications. *A. Bender*

2:05 CINF 139. Computational approach to HIV-1 drug resistance prediction based on relationships between viral genotype and combination of antiretroviral medicines. *O. Tarasova, D.E. Kireev, D. Filimonov, V. Porokov*

2:35 CINF 140. Chemical mixture evaluation using molecular-weight corrected fingerprints. *O. Ursu, C.G. Bologa, T.I. Oprea*

3:05 Intermission.

3:20 CINF 141. SynergySeq – Integration of disease and perturbation gene expression data to prioritize synergistic drug combinations in cancer. *S. Schürer, V. Stathias, A. Jermakowicz, N. Ayad*

3:50 CINF 142. SSR: Structure-synergy relationships. *L. Chen, K. Wilson, M.D. Hall, R. Guha*

4:20 CINF 143. Novel computational approach for predicting drug-carrier formulations of poorly soluble drugs. *V.M. Alves, D. Hwang, E. Muratov, M. Sokolsky-Papkov, E. Varlamova, N. Vinod, C.C. Melo-Filho, R. Marreto, S. Taveira, C.H. Andrade, A. Trapsha, A. Kabanov*

4:50 Concluding Remarks.

SECTION B

Westin Boston Waterfront

Lewis

Reaction Analytics

F. van den Broek, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 CINF 144. Brief history of reaction analytics. *F. van den Broek*

2:00 CINF 145. Automatic discovery and enumeration of new tactical combinations. *S. Szymkuc, E. Gajewska, M. Startek, P. Dittwald, B. Grzybowski*

2:25 Intermission.

2:40 CINF 146. Retrosynthetic software for practicing chemists: Novel and efficient *in silico* pathway design validated at the bench. *L. Rickershauser*

3:05 CINF 147. Learning to plan chemical syntheses. *M. Segler, M. Waller*

3:30 Intermission.

3:45 CINF 148. Powerful algorithms in CASD systems: How important is the quality of the underlying data? Overview of results obtained with a transform library approach. *V. Eigner Pitto, M.G. Hutchings, H. Saller*

4:10 CINF 149. Exploring the use of conditional generative adversarial networks (cGAN) to analyze chemical reactions via electron density fields. *M. Clark*

SECTION C

Westin Boston Waterfront

Harbor Ballroom III

Drug Discovery: Cheminformatic Approaches

E. Davis, *Organizer, Presiding*

1:30 CINF 150. Bringing assay protocols into the age of informatics. *A. Clark*

1:55 CINF 151. Library enhancement through performance analysis of different components of high-throughput screening library against a variety of targets. *A. Saha, M.D. Hack, T. Mirzadegan*

2:20 CINF 152. Chemical intelligence that makes hidden knowledge effortlessly reachable. *J. David, A. Tarcsay, G. Imre*

2:45 CINF 153. Statistical-based database fingerprint: Application in ligand-based virtual screening. *N. Sánchez-Cruz, J. Medina Franco*

3:10 Intermission.

3:20 CINF 154. Rational solvent selection in asymmetric hydrogenation using molecular descriptors and machine learning. *Y. Amar, A.M. Schweidtmann, P.P. Deutsch, A. Lapkin*

3:45 CINF 155. Phenotypic screening aided by multitask prediction methods. *A. de la Vega de León, V.J. Gillet*

4:10 CINF 156. CCCTK: High performance molecular informatics toolkit for the design of anti-cancer molecule. *M. Karthikeyan*

THURSDAY MORNING

SECTION A

Westin Boston Waterfront

Grand Ballroom A

Drug Discovery: Cheminformatic Approaches

Cosponsored by AGRO

E. Davis, *Organizer, Presiding*

8:30 CINF 157. Implementing genetic algorithms and evolutionary strategies in conformer analysis. *N. Harms, R.H. West*

8:50 CINF 158. Predicting accumulation in Gram-negative bacteria to design better antibiotics. *B. Drown, M. Richter, P.J. Hergenrother*

9:10 CINF 159. Gearing transcriptomics towards high-throughput screening: Compound shortlisting from gene expression using *in silico* information. *N. Aniceto, A. Bender, F. Nigsch*

9:30 CINF 160. How to achieve better results using ligand-based virtual screening of big chemical databases. *P. Pogodin, A. Lagunin, A. Rudik, D. Filimonov, D. Druzhilovskiy, M.C. Nicklaus, V. Porokov*

9:50 Intermission.

10:05 CINF 161. Making virtual REAL: Expansion of the synthetically feasible chemical space. *Y. Moroz*

10:25 CINF 162. NextMove for Chemspace: Millisecond search in a database of 100 million structures. *O. Gavrylenko, Y. Moroz, R.A. Sayle, J. Mayfield*

10:45 CINF 163. Automated workflow for reproducible analysis of protein-ligand scoring functions. *D. Castaneda Mogollan, S. Sirimulla, M. Hassan*

11:05 CINF 164. Driving efficiency and innovation in life sciences R&D. *J.F. Donahue*

11:25 CINF 165. Analysis of anti-flavivirus and anti-enterovirus activity based on ViralChEMBL data. *A. Orlov, A. Nikitina, V. Polyulin, D.I. Osolodkin*

SECTION B

Westin Boston Waterfront

Lewis

Reaction Analytics

F. van den Broek, *Organizer, Presiding*

8:30 CINF 166. Machine learning and continuous flow: Detection and correction of flow-incompatible reaction conditions. *P.P. Plehiers, C.W. Coley, W.H. Green, G.B. Marin, C.V. Stevens, K. Van Geem*

8:55 CINF 167. Predicting reaction conditions for computer-generated SAVI reactions by machine learning from reaction databases. *V. Delannée, M.C. Nicklaus*

9:20 Intermission.

9:35 CINF 168. Using machine learning to recommend suitable conditions for organic reactions. *H. Gao, T. Struble, C.W. Coley, W.H. Green, K.F. Jensen*

10:00 CINF 169. Analysing matched molecular pair transformations in drug discovery projects as a function of time and molecular environment. *S. Ashenden, T. Kogej, O. Engkvist, E. Rivers, A. Madin, K. Goldberg, I. Storer, A. Bender*

10:25 Intermission.

10:40 CINF 170. Regioselectivity: An application of expert systems and ontologies to chemical (named) reaction analysis. *R.A. Sayle, J. Mayfield, T. Blaschke, N.M. O'Boyle*

11:05 CINF 171. Representing organic reactions through InChI differences. *M.A. Walker, J. Paliakkara*

11:30 CINF 172. Automatically finding and fixing mistakes in detailed kinetic models of combustion. *N. Harms, R.H. West*

TOXI

Division of Chemical Toxicology

T. Spratt, *Program Chair*

SOCIAL EVENTS:

Reception, 6:30 PM: Tue

BUSINESS MEETINGS:

Business Meeting, 8:30 PM: Tue

SUNDAY MORNING

SECTION A

Westin Boston Waterfront

Marina Ballroom I

Translesion DNA Polymerases

Z. Suo, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 TOXI 1. Mechanisms to coordinate multiple DNA polymerases for TLS. *M.A. Trakselis*

9:15 TOXI 2. Explosive mutation accumulation triggered by heterozygous human Pol ϵ proofreading-deficiency is driven by suppression of mismatch repair. *Z.F. Purcell*

9:55 Intermission.

10:10 TOXI 3. Finding their way: How error-prone polymerases gain access to the bacterial replisome.

J.J. Loparo

10:50 TOXI 4. Mechanistic basis for the bypass of a bulky DNA adduct catalyzed by a Y-family DNA polymerase. *R. Vayas, G. Efthimiopoulos, J. Tokarsky, C. Malik, A.K. Basu, Z. Suo*

SUNDAY AFTERNOON

SECTION A

Westin Boston Waterfront

Marina Ballroom I

Founders' Award

Cosponsored by PROF

J. L. Bolton, *Organizer, Presiding*

1:00 Introductory Remarks.

1:10 TOXI 5. Biological targets of electrophilic furan metabolites. *L.A. Peterson*

1:50 TOXI 6. Mass spectrometry studies of DNA and protein adducts of reactive electrophiles. *N.Y. Tretyakova*

2:30 TOXI 7. Electrophilic targeting of Keap1/Nrf2 signalling for disease prevention and treatment. *A. Dinkova-Kostova, T. Honda, A.Y. Abramov*

TOXI/CHAL

3:10 Intermission.

3:25 **TOXI 8.** Chasing rainbows? Targeted covalent ligand design guided by precision electrophile signaling technologies. *Y. Aye*

4:05 **TOXI 9.** Botanicals electrophiles modify multiple targets. *J.L. Bolton*

Innovations in Chemistry Supporting Strategic Human Health Risk Assessments

Sponsored by AGRO, Cosponsored by CHAS and TOXI

MONDAY MORNING

SECTION A

Westin Boston Waterfront
Marina Ballroom I

Student/Post-Doc

E. G. Prestwich, U. Sarkar, *Organizers, Presiding*

8:00 **TOXI 10.** Repair and processing of DNA lesions induced by a dynamic electrophile. *S. Byrne, K. Yang, S. Rokita*

8:20 **TOXI 11.** Mechanisms of bioactivation of the tobacco carcinogens and 2-amino-9H-pyrido[2,3-b]indole (AaC) and 4-aminobiphenyl (4-ABP) in human bladder. *M. Bellamri, L. Yao, R. Turesky*

8:40 **TOXI 12.** Development of a novel approach for measuring N-nitrosornicotine bioactivation in humans by using deuterium-labeled analogs. *E. Carlson, A. Goode, V. Gurvich, I. Stepanov, V. Jain, P. Upadhyaya, S.S. Hecht*

9:00 **TOXI 13.** Scheduled LC-SRM method for targeted DNA adductome analysis. *Y. Cui, P. Wang, Y. Wang*

9:20 Intermission.

9:30 **TOXI 14.** Significant impact of divalent metal ions on the fidelity, sugar selectivity, and drug incorporation efficiency of human PrimPol. *J. Tokarsky, P. Wallenmeyer, K. Phi, Z. Suo*

9:50 **TOXI 15.** Incorporating histone H2A variants facilitates global excision of uracil residues in nucleosomes. *C. Li, S. Delaney*

10:10 **TOXI 16.** Integrating multi-“omics”- mass spectrometry-based methods to characterize electronic cigarette exposure in humans. *R.P. Dator, P.W. Villalta, C.J. Hooyman, L.A. Maertens, S. Balbo*

10:30 **TOXI 17.** The C'5-pseudouridiny radical. *I. Sappy*

10:50 Intermission.

11:00 **TOXI 18.** Transcriptional inhibition and repair mechanism of alkyl phosphotriester DNA adducts in mammalian cells. *Y. Tan, J. Wu, Y. Wang*

11:20 **TOXI 19.** Mass spectroscopy-based metabolomics reveals new insights on the biological effects of copper oxide nanoparticles in a human colon carcinoma cell line. *N.G. Chavez Soria, D.S. Aga, G. Atilla-Gokcumen*

11:40 **TOXI 20.** Sensitive method for quantitation of abasic sites in isolated and cellular DNA by electrospray ionization tandem mass spectrometry. *H. Chen, C.J. Rizzo, R.J. Turesky*

MONDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Marina Ballroom I

Chemical Toxicology of Nanomaterials

S. Balbo, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 **TOXI 21.** Future of nanotoxicology research: Filling knowledge gaps to safeguard health. *A. Elder*

1:45 **TOXI 22.** Investigation of toxicity mechanism of nano-scale lithium battery material NMC to bacterial models. *V. Feng*

2:25 **TOXI 23.** Size, surface chemistry and reactivity – all matter as toxicity determinants of fibrous nanomaterials. *A.A. Shvedova*

3:05 Intermission.

3:20 **TOXI 24.** DNA methylation alterations by nanoparticles. *L. Goddard*

4:00 **TOXI 25.** Nanomaterial induced mechanisms: Focus on nano cell interactions. *A. Kraegeloh*

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

T. Spratt, *Organizer*

8:00 – 10:00

37-38, 40, 43-44, 48, 53, 56-57, 59, 64, 67, 70, 76, 78-79, 81-83, 90. See subsequent listings.

TUESDAY MORNING

SECTION A

Westin Boston Waterfront
Marina Ballroom I

Mechanisms of Binding, Transport & Biotransformation of Toxic Metals

Cosponsored by INOR

B. P. Rosen, *Organizer, Presiding*

8:30 **TOXI 26.** Mechanisms of binding, transport & biotransformation of toxic metals. *T. Pinter, L. Ruckthong, C. ervin, V.L. Pecoraro*

9:15 **TOXI 27.** Arsl, a C-A5 lyase for degradation of environmental organoarsenicals. *V.S. Nadar, M. Yoshinaga, B.P. Rosen*

10:00 **TOXI 28.** Understanding the mechanism of carbon-metal bond cleavage by the organomercurial lyase MerB. *H. Wahba, M. Stevenson, D. Wilcox, J.G. Omichinski*

10:45 **TOXI 29.** Interplay of copper transport proteins in the processing of platinum anticancer drugs in the cell. *N. Dolgova, C. Yu, O. Dmitriev*

TUESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Marina Ballroom I

Chemical Research in Toxicology Young Investigator Award

W. Chan, *Organizer, Presiding*

1:00 Introductory Remarks.

1:10 **TOXI 30.** Oxidized polyunsaturated fatty acids: Are they toxic or bioactive? *J. Lee*

1:50 **TOXI 31.** Antibiotics induce nitrosative stress in microorganisms. *C.T. Chan*

2:30 Intermission.

2:45 **TOXI 32.** Advances in human biomonitoring of carcinogens by ion trap and high resolution accurate mass spectrometry. *R. Turesky*

3:25 **TOXI 33.** Chemical approaches to investigate the toxicity of aristolochic acids. *W. Chan*

SECTION A

Westin Boston Waterfront
Marina Ballroom I

Keynote Lectures

T. Spratt, *Organizer*

N. E. Geacintov, *Presiding*

4:30 Introductory Remarks.

4:40 **TOXI 34.** Linking mutational spectra of chemical carcinogens to the mutational patterns seen in human tumors. *J. Essigmann, B.I. Fedeles*

TUESDAY EVENING

SECTION A

Westin Boston Waterfront
Galleria

Posters

T. Spratt, *Organizer*

7:00 – 9:00

TOXI 35. Prediction of carcinogenic behavior of hexacyclic polycyclic aromatic hydrocarbons using aromatic sextet theory and ionization potentials. *J.O. Ona Ruales*

TOXI 36. Toxic effects and molecular mechanism of silver nanoparticles to *Daphnia magna*. *J. Hou*

TOXI 37. Modified 3-deaza-3-alkyl-adenosines as minor groove alkylation mimics in translation DNA synthesis. *L.J. Weselinski, V. Begoyan, G. Kenyon, M. Tanasova*

TOXI 38. Ultrasensitive high-resolution mass spectrometric analysis of methyl DNA phosphate adducts in human lung. *B. Ma, P.W. Villalta, J.B. Hochalter, I. Stepanov, S.S. Hecht*

TOXI 39. Screening for DNA adducts in human colon by high-resolution nano-ESI UHPLC/MSⁿ. *D. Konorev, R. Turesky*

TOXI 40. Application of an *in silico* tool for the risk assessment of an industrial process compliant to ICH M7 guidelines. *M. Burns, M. Ott, S.J. Webb*

TOXI 41. Methylation in human hemoglobin is associated with age as analyzed by liquid chromatography tandem mass spectrometry. *H.C. Chen, S. Ip*

TOXI 42. Characterizing uracil DNA glycosylase processivity in nucleosome core particles. *E. Kennedy, S. Delaney*

TOXI 43. Structural and dynamic impact of single ribonucleotide incorporation on nucleosome structure. *I. Fu, D. Smith, S. Broyde*

TOXI 44. Identification of photo-degradation products of nitroguanine and toxicological implications. *L. Moores, A. Kennedy, K.A. Gust, M.K. Shukla, L.K. Rabalais, D.L. Henderson, S.J. Jones*

TOXI 45. Gallic acid derivatives inhibit DNA repair enzyme ALKBH2. *Q. Tang, F. Chen, H. Ma, K. Bian, D. Li*

TOXI 46. Conformation-specific replication block from bulky 4-aminobiphenyl-modified DNA lesions. *A. Cai, K. Bian, F. Chen, D. Li, B. Cho*

TOXI 47. Mutagenicity of DNA-peptide crosslink in human cells. *S. Naldiga, S. Ji, G. Moldovan, N.Y. Tretyakova, A.K. Basu*

TOXI 48. Efficiency of initiating base excision repair on nucleosome substrates. *A. Garlow, S. Delaney*

TOXI 49. Replication studies of N3-methyladenine in *Escherichia coli* cells. *J. Yuan, Y. Wang*

TOXI 50. Unmasking the role of protein modification in the observed toxicity of aristolochic acid. *C. Chan, W. Chan*

TOXI 51. Adverse reactions induced by the antiepileptic drug oxcarbazepine may stem from its metabolic biotransformation to carbamazepine. *I. Martins, C. Charneira, M. Marques, A. Antunes*

TOXI 52. Identification of 4-(methylnitroamino)-1-(3-pyridyl-1-oxide)-1-butanone, a novel metabolite of 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK) in rat urine. *L. von Weymarn, R. Dator, S. Balbo, S.E. Murphy*

TOXI 53. Initiation of repair of DNA nucleobase lesions in the nucleosome core particle. *M.E. Tarantino, S. Delaney*

TOXI 54. Dual cell system for in vitro studies of toxic blood gases. *W.G. Senanayake, I. Petrikovics, D.E. Thompson*

TOXI 55. Analysis of acrolein-derived 1,N²-propanodeoxyguanosine adducts in human lung DNA from smokers and nonsmokers. *J. Yang, S. Balbo, P.W. Villalta, S.S. Hecht*

TOXI 56. High-resolution/accurate mass DNA adductomics to screen for doxorubicin-induced adducts as biomarkers of therapeutic efficacy. *A. Stornetta, K. Walters, R.P. Dator, V. Guidolin, P.W. Villalta, S. Balbo*

TOXI 57. Molecular level studies of the impact of poly (oxonorbornenes) and their gold nanoparticles conjugates on *D. rerio* embryos. *J.N. Kluttz, A. Laranang, Z. Zheng, J. Saar, K. Lienkamp, R. Brewster, Z. Rosenzweig*

TOXI 58. Oxidation and removal of cytosine derivatives in the nucleosome. *P. Caffrey, S. Delaney*

TOXI 59. Determining the basis of *E. coli* DinB and human pol kappa DNA damage specificity. *H. Stern, T.A. Coulther, J. Winters, C.L. Mills, M.J. Ondrechen, P. Beuning*

TOXI 60. Prediction of the interaction region between the Y-family polymerase DinB and the transcription-repair coupling factor Mfd in *E. coli*. *S.K. Fields, P. Beuning*

TOXI 61. Machine learning models for predicting hepatic steatosis based on *in vivo* data. *B. Zdrzil, S. Jain, S. Klinting, S. Escher, G.F. Ecker, U. Norinder*

TOXI 62. Predicting drug metabolites using bacterial-based models. *P.C. Rosado, J.P. Cruz, M.C. Justino, M. Marques, G.C. Justino*

TOXI 63. Characterization of LexA-regulated protein YbF in *E. coli*. *A. Hotchkiss, C. Kramer, P. Beuning*

TOXI 64. DNA damage induced by oxidative stress and lipid peroxidation in leukocyte DNA from African-American and Caucasian smokers. *C. Ruszczak, B. Ma, J. Jensen, D. Hatsukami, I. Stepanov*

TOXI 65. Analysis of the spectrum of DNA modifications in *Pseudomonas aeruginosa*. *E.A. Carlson, N.C. Wamer, T.A. Dodson, E.G. Prestwich*

TOXI 66. Probing the conformational dynamics of the Beta sliding clamp in *Escherichia coli*. *M.L. Liriano, B. Koleva, P. Beuning*

TOXI 67. Potential DNA oxidation adducts for disease biomarkers. *N.C. Wamer, E.A. Carlson, T.A. Dodson, E.G. Prestwich*

TOXI 68. Rapid microplate assay for acellular reactive oxygen species generation induced by engineered nanomaterials in real-time. *R. Coreas, W. Zhong*

TOXI 69. Identifying toxicology concepts in the replacement of mercury catalysts during the acetylene hydrochlorination of vinyl chloride monomers. *L. Green, J. Marshall, A.S. Cannon*

TOXI 70. Petrogenic and pyrogenic polycyclic aromatic hydrocarbons in human urine: comparison of their levels between two geographic regions. *C. Mesaros, M. Huang, L.C. Hackfeld, R.P. Hodge, I.A. Blair, T.M. Penning*

TOXI 71. Dissecting interactions between *E. coli* DNA polymerase III and single-stranded DNA binding protein to gain insights into polymerase management. **J. McIsaac, M. Ondrechen, P.J. Beuning**

TOXI 72. Release of lead (Pb) and formation of disinfection byproducts during drinking water disinfection in the water distribution system. **J. Liu, V.K. Sharma, C.M. Sayes**

TOXI 73. Mineralogy dependent dissolution of inhaled uranium in simulated lung fluids in uranium mine lands, New Mexico. **E. Hettiarachchi, S. Paul, D. Cadol, B. Frey, G. Rubasinghe**

TOXI 74. Reactive oxygen species (ROS)-dependent release of an inhibitor from an aptamer. **G. Premnauth, E.J. Merino**

TOXI 75. Effect of surface charge on toxicity of AuNPs; Are cationic AuNPs toxic? **E. Lee, Y. Kwon**

TOXI 76. Nanomaterials in marine environment: toxicity to *Artemia salina* with and without the presence of Phe and Cd²⁺. **J. Lu, X. Lv, Z. Chen, X. Zhu**

TOXI 77. Molecular characterization of alcohol-induced DNA damage for cancer prevention. **V. Guidolin, A. Carra', P.W. Villalta, E. Carlson, S. Balbo**

TOXI 78. EB-Fapy-dG adducts of 1,3-butadiene: Synthesis, structural identification, and detection in human cells. **S.S. Pujari, A. Groehler, D. Najjar, N.Y. Tretyakova**

TOXI 79. Inter-individual differences in metabolism of 1,3-butadiene. **A. Degner, G. Madugundu, R. Arora, L.A. Peterson, N.Y. Tretyakova**

TOXI 80. 2, 2', 3, 5', 6 polychlorinated biphenyls (PCB-95) induce behavioral and GABAergic neurotransmitter changes in zebrafish at early developmental exposure. **P. Ranasinghe, C.M. Lee**

TOXI 81. Investigation of the effect of 2-phenethyl isothiocyanate (PEITC) on the levels of 4-hydroxy-1-(3-pyridyl)-1-butanone-releasing DNA adducts in oral cells of smokers. **A. Jain, G. Yakovlev, B. Ma, I. Stepanov**

TOXI 82. Smoking and inflammation mediated epigenetic changes in a mouse model of lung cancer. **J. Fernandez, C. Seiler, Q. Han, N.Y. Tretyakova**

TOXI 83. Independent synthesis and fate of DNA lesions generated from oxidative damage at the C-3' and C-5' position of deoxyribonucleotides. **M. Bedi, A.C. Bryant-Friedrich**

TOXI 84. Ecotoxicology of nano-perovskites in aquatic environment. **T. Zhou, W. Fan**

TOXI 85. Thermodynamic exposure reduction by amendment techniques to limit bioaccumulation during ongoing depositional input – a sediment mesocosm study with three organisms. **A.P. Wang**

TOXI 86. MegaTox for predicting compound liabilities. **K.M. Zorn, T. Lane, D.P. Russo, A. Clark, S. Ekins**

TOXI 87. Information-derived adverse outcome pathways with a case study on structural cardiotoxicity. **A. Bender**

TOXI 88. Morphology-dependent cytotoxicity of SiC nanomaterials to human mesenchymal stem cells. **F. Chen, G. Li, E. Zhao, J.V. Jokerst**

TOXI 89. Nanotoxicity predictive modeling: A case study on metal oxides nanoparticles. **B. Rasulev**

TOXI 90. Surface-modified gold nanoparticles and their long-term impact on cellular pathways. **P. Falagan Lotsch, E. Grzincic, C.J. Murphy**

TOXI 91. Noninvasive measurement of bladder carcinogen DNA adducts in human urinary cells by liquid chromatography-tandem mass spectrometry. **B. Yun, M. Bellamri, S. Krishnamachari, R. Turesky**

WEDNESDAY MORNING

SECTION A

Westin Boston Waterfront
Marina Ballroom I

Nanomaterials in Drug Delivery: Efficacy & Toxicity Considerations

Cosponsored by MEDI
P. F. Guengerich, W. G. Humphreys, N. A. Meanwell,
Organizers, Presiding

8:00 Introductory Remarks.

8:05 **TOXI 92.** What exactly is toxic about colloidal nanoparticle formulations? Results from the molecular level and the cellular level. **C.J. Murphy**

8:45 **TOXI 93.** Targeting or enhanced selectivity: Toxicological considerations of nanoparticle therapeutics. **R. Darvari**

9:25 **TOXI 94.** Exosome nanoparticles for the treatment of intraperitoneal mesothelioma. **M.W. Grinstaff**

10:05 Intermission.

10:20 **TOXI 95.** Debugging nano-bio interfaces. **M. Mahmoudi**

11:00 **TOXI 96.** Understanding mast cell activation in the safe development of nanotechnologies. **J. Brown**

WEDNESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Marina Ballroom I

Topics in Chemical Toxicology

P. Beuning, Organizer

T. Spratt, Organizer, Presiding

1:00 **TOXI 97.** Base and nucleotide excision repair of site-specific oxidatively generated guanine lesions in DNA substrates transfected into human cells. **V. Shafirovich, K. Kropachev, M. Kolbanovskiy, N.E. Geacintov**

1:20 **TOXI 98.** Reduction pathway-dependent cytotoxicity of reduced graphene oxide. **C. Zhang, Q. Zhang**

1:40 **TOXI 99.** Site-specific production of hydroxyl radicals and synergistic DNA damage induced by the non-enzymatic activation of the anti-tuberculosis drug isoniazid by Cu(II). **B. Zhu**

2:00 **TOXI 100.** Insights into the molecular mechanism of alkylation- and platinum-induced mutagenesis. **S. Lee, Y. Kou**

2:20 **TOXI 101.** Kinetic basis of DNA synthesis by human DNA polymerase/primase PrimPol. **L. Zhao**

2:40 Intermission.

3:00 **TOXI 102.** Levels of glyoxal-induced hemoglobin modifications correlate with DNA cross-links in human blood as determined by mass spectrometry. **H.C. Chen, C. Liu**

3:20 **TOXI 103.** High mobility group box 1: A re-evaluation of its role in cancer. **I.A. Blair, L. Weng, L. Guo, A. Vachani, C. Mesaros**

3:40 **TOXI 104.** Determining associations between transcriptomics and toxicity using co-expression network methods. **B. Alexander-Dann, T. James, A. Bender**

4:00 **TOXI 105.** Inhibitors of the mitochondrial respiratory complex - Structure-based prediction of toxicity. **G.F. Ecker, F. Troger, S. Jain, B. Zdravil**

4:20 **TOXI 106.** Configurational and conformational equilibria of the N6-(2-Deoxy-D-erythro-pentofuranoyl)-2,6-diamino-3,4-dihydro-4-oxo-5-N-methylformamidopyrimidine (MeFapy-dG) lesion in DNA. **M.P. Stone, S.N. Bamberger, C.K. Malik, T.L. Johnson-Salyard, S.K. Brown, H. Pan, C.J. Rizzo, M.W. Voehler**

4:40 **TOXI 107.** Using open bioactivity data for developing machine-learning prediction models for chemical modulators of the retinoid X receptor (RXR) signaling pathway. **S. Kim**

CHAL

Division of Chemistry and the Law

K. Bianco and K. McIntyre, Program Chairs

SOCIAL EVENTS:

Luncheon, 12:00 PM: Mon
Reception, 6:00 PM: Mon

BUSINESS MEETINGS:

Business Meeting, 5:00 PM: Sun

SUNDAY MORNING

Chemical Structure Searching for Patent Information

Sponsored by CINF, Cosponsored by CHAL and CPRM

SUNDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 154

Strengthening Your Patent Rights in Light of Recent Federal Circuit Court Decisions

A. H. Berks, X. Pillai, Organizers, Presiding

2:00 **CHAL 1.** Review of recent Federal Circuit decisions relevant to what scientists need to know about patent filing and prosecution. **X. Pillai, A. Berks**

Intellectual Property Basics for Chemical Businesses

Sponsored by SCHB, Cosponsored by CHAL and PROF

Chemical Structure Searching for Patent Information

Sponsored by CINF, Cosponsored by CHAL and CPRM

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 154

Developments in Pharmaceutical Patent Law

Cosponsored by PROF

B. C. Trinque, Organizer, Presiding

9:00 **CHAL 2.** Pharmaceutical patent prosecution primer.

B.C. Trinque

9:30 **CHAL 3.** Obviousness, the CAFC, and second generation filing strategies. **B. Vaughan**

10:30 **CHAL 4.** What constitutes an inventor? A review of Federal Circuit case law. **A.R. Ehle**

11:00 **CHAL 5.** Definiteness and the Medicines Co. and Forest Labs decisions. **B.C. Trinque**

MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 154

Extensions to Patent Term in the U.S. & Worldwide

R. G. Bone, Organizer, Presiding

2:15 **CHAL 6.** Extensions to patent term in the U.S. and worldwide. **R. Bone**

2:30 **CHAL 7.** Patent term extension in the U.S.. **K. Connarn**

3:00 **CHAL 8.** Supplementary protection certificates in the European Union. **I. Finnie**

3:30 **CHAL 9.** Patent term extensions and data exclusivity in Australia, New Zealand and South East Asia. **J. Gledhill, J. Landells**

4:00 **CHAL 10.** Patent term adjustment in the U.S.. **R. Bone**

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

K. E. Bianco, K. McIntyre, Organizers

8:00 – 10:00

CHAL 11. Chocolate: Food of the gods. **H.M. Peters, S.B. Peters**

CHAL 12. National Inventors Hall of Fame. **H.M. Peters, S.B. Peters**

TUESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 154

Recent Developments in the Protection of Nanotechnology-Related Intellectual Property

Cosponsored by MPPG

K. E. Bianco, K. McIntyre, Organizers, Presiding

9:30 **CHAL 13.** Outside the box: Options for protecting your nanotechnology intellectual property. **K. McIntyre**

10:15 **CHAL 14.** Obviousness primer: Protecting your nanotechnology against obviousness challenges. **A. Lipton**

11:00 **CHAL 15.** Recent developments in post-grant review proceedings. **K.E. Bianco**

TUESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 154

Protecting Your Ideas in the Chemical Arts

Cosponsored by SCHB

A. Khanin, Organizer, Presiding

1:00 **CHAL 16.** Biopharmaceutical due diligence considerations. **K. McGough**

1:30 **CHAL 17.** Patent law basics for chemists. **S. Vathyam**

2:00 **CHAL 18.** Overview of *Inter Partes* proceeding. **G. Yang**

2:30 **CHAL 19.** *Inter Partes* Review and its effects on patent valuation. **T. Palmer**

CHAL/COLL

- 3:00 CHAL 20.** The wide world of chemical arts. *A. Simpson*
- 3:30 CHAL 21.** Ways to protect small molecule drugs. *E. Weeks*
- 4:00 CHAL 22.** Structuring a small molecule patent portfolio. *A. Khankin*
- 4:30 CHAL 23.** Drug lifecycle management: The interplay between patent and FDA marketing exclusivity. *T. Leavy*

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 154*

Non-Traditional Careers in Chemistry

- Cosponsored by PROF, SCHB, WCC and YCC
K. E. Bianco, K. McIntyre, *Organizers, Presiding*
- 9:30 CHAL 24.** Careers beyond the lab: chemical information professional. *J. Duberman*
- 10:00 CHAL 25.** Navigating the path from graduate school to a career in patent law. *C. Rodrigo*
- 10:30 CHAL 26.** Careers in patent law: A litigator's perspective. *K. McIntyre*
- 11:00 CHAL 27.** Careers in the federal government. *A. Ehrlich*
- 11:30** Panel Discussion.

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 154*

The Many Faces of CHAL: Where Chemistry Meets the Law

- K. McIntyre, *Organizer*
K. E. Bianco, *Organizer, Presiding*
- 1:30 CHAL 28.** Legal origins of the New England Compounding Center (NECC) crisis and the future of drug compounding regulation. *D.P. Pleyne, L.R. Takaoka, M. Rodwin*
- 2:00 CHAL 29.** Innovation in renewable energy: How patent strategy can support business objectives. *K.M. Caldwell*
- 2:30 CHAL 30.** Smart contracts and blockchain technology in the chemistry industry. *K.M. Caldwell*
- 3:00 CHAL 31.** Patents as a research, business and career tool. *C. Turoski*
- 3:30 CHAL 32.** Deriving insights from IP search reports. *E.N. Cheeseman*
- Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer**
- Sponsored by AGRO, Cosponsored by AGFD, CHAL, CHAS and ENVR

COLL

Division of Colloid and Surface Chemistry

R. Nagarajan, *Program Chair*

OTHER SYMPOSIA OF INTEREST:

- 2D Materials: Innovative Materials & Devices for Energy & Fuels (*see ENFL, Sun, Mon*)
Bioconjugate Chemistry Lectureship & Award: Symposium in honor of Wolfgang Parak (*see PMSE, Tue*)
Functional Materials from Biopolymer Self-Assembly & Self-Organization (*see CELL, Wed, Thu*)
Interfacial Chemistry under Nano-scale Confinement (*see GEOC, Sun*)
Molecular Interactions of Synthetic Nanoparticles with Membranes (*see ANYL, Wed*)
Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier (*see ANYL, Sun, Mon*)

SOCIAL EVENTS:

- COLL Social Hour with Poster Session, 6:00 PM: Sun
COLL Luncheon, 12:15 PM: Tue

BUSINESS MEETINGS:

COLL Program & Executive Committee Meeting, 4:00 PM: Sat
COLL Open Business Meeting, 5:30 PM: Sun

SUNDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 152*

Advances in Colloid & Surface Chemistry Enabled by Cryogenic & In Situ Liquid-cell Electron Microscopy

- N. D. Burrows, M. R. Jones, *Organizers, Presiding*
- 8:30 COLL 1.** Improving quantification in liquid cell electron microscopy of materials reactions. *F.M. Ross*
- 9:00 COLL 2.** Comparing contrast and electron irradiance limits for soft matter in cryogenic and in-situ liquid-cell electron microscopy. *J.E. Evans*
- 9:30 COLL 3.** Advances in electron imaging and spectroscopy of nanomaterials at cryogenic temperatures. *L. Kourkoutis*
- 10:00 COLL 4.** Using sub-sampled STEM and inpainting to control the kinetics and observation efficiency of dynamic processes in liquids. *N.D. Browning*
- 10:30** Intermission.
- 10:45 COLL 5.** Efficient dispersion of oil by blends of food-grade surfactants: Role suggested by Cryo-EM of nanostructures forming at the interface. *D. Riehm, L. Corcoran, R. Penn, G.D. Bothun, S.R. Raghavan, V.T. John, A. McCormick*
- 11:15 COLL 6.** Morphological study of microgel-based colloidal systems by cryogenic transmission electron microscopy (cryo-TEM). *Z. Kochovski, H. Jia, Y. Lu*
- 11:45 COLL 7.** Cryo-SEM imaging and analysis of peptide-complexed microgels. *J. Liang, X. Xiao, T. Chou, M. Libera*
- 12:05 COLL 8.** Observing phase transitions of amphiphilic block copolymers in solution by liquid cell TEM. *N.C. Gianneschi*

SECTION B

*Boston Convention & Exhibition Center
Room 153A*

Colloidal & Interfacial Science in Separation Processes

- I. Chernyshova, *Organizer*
Q. Liu, S. Ponnuram, P. Somasundaran, *Organizers, Presiding*
- 8:30** Introductory Remarks.
- 8:35 COLL 9.** Using ionic liquids to take advantage of the many facets of chitin: Tailor-made high surface area nanofibrous sorbent mats for selective separations of metal ions. *R.D. Rogers, G. Gurusu*
- 9:05 COLL 10.** Tuning viscoelastic behavior of particle-stabilized emulsions for enhanced oil recovery applications. *B. Pilapil, A. Pandey, M. Derakhshandeh, A. Meimanova, A. Govedarica, S. Bryant, M. Trifkovic*
- 9:30 COLL 11.** Statistics of dispersity of nanosheets by stabilizing oil and water interface. *H.V. Kumar, Z. Zhang, W. Dickinson, S.R. Bapat, H.C. Schniepp, D.H. Adamson*
- 9:50 COLL 12.** Competition between the hydrolysis-phosphate precipitation reactions in wastewater coagulation. *H. Ratnaweera*
- 10:10 COLL 13.** Practical approaches to modified "smart" fabrics for oil/water separation from stabilized emulsions. *M. Lehtinen, Z. Wang, G. Liu*
- 10:30** Intermission.
- 10:45 COLL 14.** Micelle based separations: From small molecules to proteins to nanoparticles. *R. Nagarajan*
- 11:15 COLL 15.** Enhancement of the solid-liquid separation in oil sands tailings treatment using silica nanoparticles. *A. Govedarica, S. Shamim, M. Trifkovic, A. Abid*
- 11:40 COLL 16.** Nanoscale view of assisted ion transport across the liquid-liquid interface. *M.L. Schlossman*
- 12:00 COLL 17.** Controlled architecture of amine ligands decorated glass fiber/poly(glycidyl methacrylate) composites via surface-initiated ICAR ATRP mediated by mussel-inspired polydopamine chemistry for uranium extraction from seawater. *W. Wang, G. Ye, J. Chen*

SECTION C

*Boston Convention & Exhibition Center
Room 156C*

Particle Sizing of Nanoparticles: From Regulatory & Metrology Aspects to Application & Analysis

- J. D. Clogston, V. A. Hackley, P. Lim Soo, A. Prina-Mello, S. Puri, S. Svenson, X. Xu, *Organizers*
J. Clogston, P. Lim Soo, *Presiding*

8:30 Introductory Remarks.

8:35 COLL 18. Regulatory science and considerations for drug products containing nanomaterials: FDA perspective. *C. Cruz*

9:05 COLL 19. Engineering and development of novel antibody-directed nanotherapeutics for the treatment of cancer. *D.C. Drummond*

9:35 Intermission.

9:50 COLL 20. Metrological challenges and issues related to measurement of nanoparticle size. *D. Kaiser*

10:10 COLL 21. Orthogonal approaches to sizing of nanomaterials in the pharmaceutical environment. *S. Sonzini, K. Treacher, Z. Nazir, S. Puri*

10:30 COLL 22. At-line DLS for real-time monitoring of particle size in a nanoemulsion process. *M. Mahoney*

10:50 Intermission.

11:05 COLL 23. Resonant mass measurement technique for subvisible particle characterization: Applications in the nanomedicine arena. *B. Coyne, J. Hadley*

11:15 COLL 24. Innovations in single particle and single cell ICP-MS – Accurate measurements of particle number in cells. *C. Stephan, R. Merrifield*

11:25 COLL 25. Is that peak real? Separating truth from fiction in particle analysis. *J. Fraikin, F. Monzon, L. Brown*

11:35 Intermission.

11:50 Panel Discussion.

12:20 COLL 26. What does it take to accurately measure concentration of particles in colloids? *J.K. Tatarkiewicz*

SECTION D

*Boston Convention & Exhibition Center
Room 157A*

Heating with Colloidal Nanoparticles: Physical Mechanisms & Applications in Life Science

- P. del Pino, L. Liz Marzan, W. Parak, *Organizers*
N. Feliu, *Presiding*
- 8:30 COLL 27.** Photothermal effects of plasmonic nanoparticles: fundamentals and applications. *N.J. Halas*
- 9:00 COLL 28.** Janus Fe₃O₄-Au magnetic-plasmonic nanoparticles for sensing, hyperthermia, and molecular imaging. *J. Reguera, D. Jimenez de Aberasturi, J. Langer, M. Henriksen-Lacey, L. Liz Marzan*
- 9:30 COLL 29.** Photothermal response of gold nanorods prepared using A CTAB-aromatic additive system. *I.W. Guo, M.C. Wang, I. Pekcevik, B.D. Gates*
- 9:50 COLL 30.** Photoacoustic alternative to MR thermometry during photothermal therapy. *D.M. Charron, H.H. Buzza, R. Weersink, G. Zheng*
- 10:10** Intermission.
- 10:40 COLL 31.** Conversion of light energy into heat and hot electrons using hybrid nanostructures with plasmonic hot spots. *A. Govorov*
- 11:10 COLL 32.** Controlling the cellular uptake of plasmonic nanoparticles by host-guest interactions for optical hyperthermia. *J. Mosquera Mosquera, I. Garcia, M. Henriksen-Lacey, L. Liz Marzan*
- 11:40 COLL 33.** Hybrid nanoscale architectures: Plasmonic and magnetic induced heating applications. *S. Hunyadi Murph*
- 12:00 COLL 34.** Thermogel nanocomposites designed for biofilm disruption. *A.S. Samia*

SECTION E

*Boston Convention & Exhibition Center
Room 157B*

Nanomaterials

- J. A. Hollingsworth, *Organizer*
R. Nagarajan, *Organizer, Presiding*
- 8:30 COLL 35.** Fabrication of ZnO/CuO vertically-aligned tree-like nanostructure and its application in solar energy conversion. *Z. Li, M. Jia, B. Abraham, J. Blake, D. Bodine, J.T. Newberg, L. Gundlach*
- 8:50 COLL 36.** Autoperforation of two-dimensional materials for generating colloidal electronic devices. *P. Liu, A. Liu, D. Kozawa, J. Dong, V. Koman, S. Wang, M. Wong, M. Strano*
- 9:10 COLL 37.** Hierarchical porous SiC for efficient electromagnetic interference shielding at elevated temperatures. *Z. Wang*
- 9:30 COLL 38.** Oxidative dissolution and antimicrobial activity of silver nanoparticles: The role of particle dimensions, surface coating and shape. *Q. Zhang, Y. Hu, V.L. Colvin*

9:50 COLL 39. Ultra-thin zirconium hydroxide films: Characterization of material properties and assessment of chemical activity for chemical warfare simulant decomposition. **S. Jean, R.B. Balow, G.C. Daniels, P.E. Pehrsson**

10:10 COLL 40. Nanoparticles mediated chiral separation using SERS. **R. Stiuflu, V. Toma, A. Moldovan, G. Stiuflu, V. Chis, M. Lucaiu**

10:30 COLL 41. Enantiomeric separations of chiral propanolol using chiral tetrahedral Au nanoparticles. **N. Shukla, D. Yang, A.J. Gellman**

10:50 COLL 42. Substrate adhesion force scales non-monotonically with growth time in millimeter-scale carbon nanotube arrays. **A.L. Kaiser, D.L. Rautenbach, S.C. Peterson, L. Acauan, S. Steiner, R. Guzman de Villoria, I.Y. Stein, B.L. Wardle**

11:10 COLL 43. Simple bond-centric model for accelerated nanoscale energetics. **M.G. Taylor, Z. Yan, A. Mascareno, G. Mpourmpakis**

11:30 COLL 44. Experimental validation of FM-AFM competition in Fe₂Zn₁Se QDs by computational modelling. **J.K. Bindra, L. Gutsev, G.F. Strouse, J. van Tol, N.S. Dalal, S. Stoian**

SECTION F

Boston Convention & Exhibition Center
Room 157C

Understanding Nano-Bio Interactions: Implications for Bio-Imaging, Diagnosis & Treatment

B. Kim, S. Wilhelm, *Organizers, Presiding*

8:30 COLL 45. Gold nanoparticles and biology: A perspective. **R. Levy**

9:00 COLL 46. Engineering cellular interactions with nanolayered particles for controlled trafficking and delivery. **P.T. Hammond**

9:30 Intermission.

9:40 COLL 47. Nanomachines biointerfacing via cell membrane cloaking for active delivery and removal. **L. Zhang**

10:10 COLL 48. Improving intracellular RNA delivery through nanocarrier design. **E.S. Day**

10:40 Intermission.

10:50 COLL 49. Size-dependent delivery of nanoparticles to brain assisted by focused ultrasound-mediated BBB disruption. **S. Ohta, E. Kikuchi, A. Ishijima, E. Kobayashi, T. Azuma, I. Sakuma, T. Ito**

11:10 COLL 50. Site-selective and controlled immobilization of leptin on nanoparticles for improving cellular uptake. **V. Maggi, V. Mangini, A. Trianni, F. Melle, R. Fiammengio**

11:30 COLL 51. Heterocellular 3D platforms and *in vivo* dual-nanotracer molecular imaging provide clinically-relevant insights to facilitate the development of antibody-targeted, NIR-active nanotherapeutics. **G. Obaid, S. Bano, K. Samkoe, S. Mallidi, J. Kuriakose, B. Pogue, T. Hasan**

11:50 COLL 52. Investigating the *in vitro/in vivo* disconnect using gold nanoparticles. **J.M. Berlin**

12:10 COLL 53. Gold nanospikes enable capture and release of circulating tumor cells. **L. Scarabelli, G.A. Vinnacombe, L.K. Heidenreich, N. Chiang, S.J. Jonas, P.S. Weiss**

SECTION G

Boston Convention & Exhibition Center
Room 252B

Nanomedicines: From Fundamentals to Applications Clinical Translation

G. Han, Z. Wang, J. Xie, *Organizers*
Z. Gu, J. Zheng, *Organizers, Presiding*

8:30 COLL 54. Ultrasmall core-shell silica nanoparticles as targeted imaging probes for cancer nanomedicine: Design, evaluation and clinical translation. **M. Bradbury**

9:00 COLL 55. Promoting intratumoral delivery, active targeting and clearance with sub-5 nm ultrafine magnetic iron oxide nanoparticles. **H. Mao**

9:30 COLL 56. Noninvasive fluorescence kidney functional imaging enabled by renal clearable luminescent gold nanoparticles. **M. Yu, X. Ning, J. Xu, B. Du, J. Zheng, J. Zhou, J. Hsieh, P. Kapur**

9:50 COLL 57. Treatment of bacterial infections with peptide-targeted porous silicon nanoparticles. **M.J. Sailor**

10:20 COLL 58. Design considerations of contrast agents for bioimaging and nanomedicine. **H. Choi, H. Kang**

10:50 COLL 59. Glomerular barrier behaves as an atomically precise bandpass filter in a sub-nanometre regime. **B. Du**

11:10 COLL 60. Light, heat and sound to enhance nanoparticle delivery to the tumors. **M. Overchuk, C. Pellow, D. Charron, K. Harmatys, M. Rajora, J. Chen, G. Zheng**

11:40 COLL 61. *In vivo* transport of engineered nanoparticles in the kidneys. **J. Zheng**

12:10 COLL 62. Tumor-targeted and clearable protein-based MRI nanoprobes. **Y. Zhao, J. Peng, G. Han**

SECTION H

Boston Convention & Exhibition Center
Room 160A

Basic Research in Colloids, Surfactants & Nanomaterials

Emulsions, Drops & Dispersions

R. Nagarajan, *Organizer*

Y. Kondo, *Presiding*

8:30 COLL 63. Formulation and stabilization of concentrated edible oil-in-water emulsions based on electrostatic complexes of a food-grade cationic surfactant (ethyl lauroyl arginate) and cellulose nanocrystals. **L. Bai, W. Xiang, S. Huan, O.J. Rojas**

8:50 COLL 64. Rapid detection of foodborne pathogens using directional emission from dynamic double emulsion droplets. **L. Zeininger, T.M. Swager**

9:10 COLL 65. Continuous visualization of complex liquid emulsions using on-chip ring resonators. **S. Savagatrup, T.M. Swager**

9:30 COLL 66. Modeling of the effect of additives in demulsification of crude oils. **D. Yu, J. Mendenhall**

9:50 COLL 67. Active demulsification of stable emulsions prepared from mixtures of azobenzene surfactant/SDS using light. **Y. Kondo, N. Koizumi, Y. Takahashi**

10:10 COLL 68. Creating aqueous metastable amorphous dispersions of hydrophobic naphthalene compounds via the "Ouzo effect". **J.M. Belanger, J. Cirilo, T.M. Reidy**

10:30 COLL 69. Influence of microfibrillated cellulose fractions on the rheology of water suspensions: Colloidal interactions and viscoelastic properties. **G. Cinar, P.A. Larsson, A. Riazanova, A. Karppinen, H. Øvrebø, L. Berglund, L. Wagberg**

10:50 COLL 70. Multiphase water-in-oil emulsion droplets produced via microfluidics as artificial cells. **C.D. Crowe, C.D. Keating**

11:10 COLL 71. Femtoliter droplet arrays: Formation, dissolution and applications. **L. Bao, H. Yu, V. Spandan, D. Lohse, X. Zhang**

11:30 COLL 72. Rheology and phase morphology of liquid crystal dispersed silica-core nanoparticles. **M. Tukpah, S. Jadhav, R. McKenzie**

11:50 COLL 73. Dynamic structural color in reconfigurable complex droplets. **A. Goodling, S. Nagelberg, M. Kalle, L.D. Zarzar**

SECTION I

Boston Convention & Exhibition Center
Room 160B

Surface Chemistry

Adsorption & Chirality

S. L. Tait, *Organizer*

D. L. Patrick, T. K. Wijethunga, *Presiding*

8:30 COLL 74. Templated growth of a chiral thin film oxide. **A. Schilling, E.H. Sykes**

8:50 COLL 75. Helical nanoparticle-induced enhancement of molecular optical activity. **L. Yang**

9:10 COLL 76. Chiral adsorbate assembly in 2D: Racemates or conglomerates. **A.J. Gellman, S. Dutta**

9:30 COLL 77. Towards understanding and controlling molecular self-assembly. **H.D. Castillo, J.M. Espinosa Duran, S. Kim, D. Lee, P. Ortaleva, S.L. Tait**

9:50 COLL 78. Quantitatively predicting nanoscale domain morphology in solution-processed organic thin films. **D.L. Patrick, G. Reed, L. Bavik, C. Schaaf, B. Johnson**

10:10 Intermission.

10:30 COLL 79. Investigating adsorbed films of linear alkanes on solid surfaces: A thermodynamic, modeling, and scattering study. **N.A. Strange, T. Arnold, J.Z. Laresé**

10:50 COLL 80. Adsorption of cycloalkanes on MgO (100), graphite and hexagonal boron nitride: A thermodynamic, modeling and neutron scattering study. **F. Wahida, J.Z. Laresé**

11:10 COLL 81. Application of crystalline substrates for nucleation control and polymorphic selection of Indomethacin. **T.K. Wijethunga, X. Chen, A.S. Myerson, B. Trout**

11:30 COLL 82. High-throughput study of the role of spatial organization on the activity of surface-bound enzymes. **N. Alsharif, T. Lawton, J.R. Uzarski, K.A. Brown**

11:50 COLL 83. Immunoassay investigation of vaccine carrier stability within ZIF-8 encapsulation. **R.P. Welch, M.A. Luzuriaga, S. Li, J.J. Gassensmith**

Interfacial Chemistry under Nano-scale Confinement

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Technical Developments & Applications of Optical Chemical Imaging

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SUNDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 152

Advances in Colloid & Surface Chemistry Enabled by Cryogenic & *In Situ* Liquid-cell Electron Microscopy

N. D. Burrows, M. R. Jones, *Organizers, Presiding*

2:00 COLL 84. Physical chemistry of nanocrystals with the graphene liquid cell. **P. Alivisatos**

2:30 COLL 85. Understanding the growth and dissolution of metal nanoparticles using *in situ* liquid transmission electron microscopy. **H. Yang**

3:00 COLL 86. Characterizing formation, growth, dissolution, and transformation of nanocrystals in suspensions. **J.A. Soltis, N.D. Burrows, V. Yuwono, S. Kumar, A.M. Vindedahl, K. Sabyrov, R. Penn**

3:30 COLL 87. Investigating crystal nucleation, transformation and assembly via liquid and cryogenic TEM. **J.J. De Yoreo**

4:00 Intermission.

4:15 COLL 88. Visualizing nanoscale assembly and elastocapillary effects in solution using *in situ* TEM.

U. Mirsaidov

4:45 COLL 89. Atomistic modeling of nanoparticle self-assembly in liquid cells and at liquid interfaces. **P. Kral**

5:05 COLL 90. Cryo-electron microscopy: 2D and 3D visualization of nanobubbles, nanoparticles, and supramolecular assemblies. **P.L. Stewart**

5:35 COLL 91. Seeing is believing - from crystallizing of nanoparticles to crumpling of polymer films. **Q. Chen**

SECTION B

Boston Convention & Exhibition Center
Room 153A

Colloidal & Interfacial Science in Separation Processes

Q. Liu, P. Somasundaran, *Organizers*

I. Chernyshova, S. Ponnurangam, *Organizers, Presiding*

2:00 COLL 92. Membranes with controlled 2D MXene lateral flake sizes. **Y. Gagotsi**

2:30 COLL 93. Gas permeation through Pickering membranes. **M.M. Krejca, W. Goedel**

2:50 COLL 94. Oxidant-triggered rapid deposition of plant-derived phenols on PVDF membrane with ultrahigh water permeability for effective oil/water separation. **Y. Chen, Q. Liu**

3:10 COLL 95. Enrichment and recovery of mammalian cells from contaminated cultures using aqueous two-phase systems. **C.J. Luby, B.P. Coughlin, C. Mace**

3:30 COLL 96. Development of nanolignin complexes from lignocellulosic biomass for applications in nanobiotechnology. **J. Bhaumik, S. Chandna, R. Kaur, Y. Reddy**

3:50 COLL 97. Ranking binding affinity for ssDNA-wrapped single-walled carbon nanotube (SWCNTs) using free energy perturbation (FEP). **K. Hinkle, F.R. Phelan**

4:20 Intermission.

4:35 COLL 98. Impact of operating conditions in membrane-based separation processes on the characteristics of inorganic scales on membrane surface. **O. Lokare, S. Wadkar, R.D. Vidic**

COLL

5:00 COLL 99. Mesoscale simulations of nanoparticle separation on polymer-grafted porous media. *A. Vishnyakov, S. Kolattukudy Poulouse, A.V. Neimark, Y. Brun*

5:20 COLL 100. Fouling behavior of chemically modified mixed liquor from submerged ceramic biofilm-membrane bioreactor. *Z. Maletskiy, O. Kulesha*

5:40 COLL 101. Effect of inorganic salt as porogen on the structure and properties of polyvinylidene fluoride(PVDF) membranes. *M. Zhang, Y. Song*

SECTION C

*Boston Convention & Exhibition Center
Room 156C*

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations

Metallic Nanocatalysts

H. Fan, Y. Sun, *Organizers*
J. He, *Organizer, Presiding*

2:00 Introductory Remarks.

2:05 COLL 102. Synthesis and catalytic applications of Ru nanocrystals with well-controlled facets and an fcc structure. *Y. Xia*

2:35 COLL 103. Crystal phase-engineering of novel nanomaterials. *H. Zhang*

3:05 COLL 104. Coordination assemblies of nanoparticles. *N. Kotov, Z. Qu, W. Feng, Y. Wang, K. Hirai*

3:35 Intermission.

3:50 COLL 105. Atomically precise metal nanoparticles and their assembly. *R. Jin*

4:20 COLL 106. Probing the atomic arrangement of palladium on silver nanocrystals with an isocyanide-based reporter by surface-enhanced Raman scattering. *D. Qin, Y. Wu*

4:50 COLL 107. Towards precision catalysts through the control of bimetallic nanostructures. *H. Yang*

SECTION D

*Boston Convention & Exhibition Center
Room 157A*

Heating with Colloidal Nanoparticles: Physical Mechanisms & Applications in Life Science

P. del Pino, L. Liz Marzan, W. Parak, *Organizers*
C. Carrillo-Carrion, *Presiding*

2:00 COLL 108. LeChatelier on the nanoscale. *C.J. Murphy*

2:30 COLL 109. Controlling biomolecular corona by plasmonic metal nanoparticles. *E. Polo*

3:00 COLL 110. Low-dose exposure of graphene oxide significantly increases metal toxicity to macrophages by altering their cellular priming state. *J. Zhu, S. Liu*

3:20 COLL 111. Magnetite nano-clusters for biomedical magnetic nanoparticles fluid hyperthermia for cancer treatment. *D. Quesada, L.C. Fernandez, A. Tapanes-Castillo, M. Barreat*

3:40 Intermission.

4:10 COLL 112. Vortex state in magnetite nanodiscs: A foundation for multimodal mechano-thermal neuronal stimulation. *G. Danijela, A.W. Senko, A. Chuvilin, P. Reddy, A. Sankararaman, D. Rosenfeld, F. Garcia, J. Moon, P. Chiang, P. Anikeeva*

4:40 COLL 113. Biotransformation of graphene oxide in lung fluids significantly alters its inherent properties and bioactivities towards immune cells. *S. Liu*

5:10 COLL 114. Radio frequency heating of carbon nanotube loaded materials. *M.J. Green, C. Sweeney, M. Saed*

SECTION E

*Boston Convention & Exhibition Center
Room 157B*

Nanomaterials

J. A. Hollingsworth, R. Nagarajan, *Organizers*
N. Pradhan, *Presiding*

2:00 COLL 115. Molecular printing: Combining organic chemistry and nanolithography to recreate biointerfaces. *A.B. Braunschweig*

2:30 COLL 116. Directed assembly for three-dimensional nanoprinting. *G. Liu, S. Wang, J. Ventrici de Souza, Y. Liu, T. Kuhl, P. Doerig, J. Frommer*

3:20 COLL 117. Integration of colloidal giant quantum dots and 3D nanoantennas by dip-pen nanolithography. *J. Wang, F. Dawood, P. Schulze, C. Sheehan, I. Staude, I. Brener, N.A. Amro, J.A. Hollingsworth*

3:40 COLL 118. Direct assembly of hydrophobic quantum dots with colloidal silica via van der Waals interaction. *K. Woo, H. Yoo*

4:00 COLL 119. Ligand-mediated structural transformations in PbS nanocrystal superlattices. *S.W. Winslow, D. Smilgies, J. Swan, W.A. Tisdale*

4:20 COLL 120. Long range hierarchical assembly of Pt nanocrystals – Insights from measurements and molecular simulations of nanoparticle docking. *S. Wang, E. Zhu, X. Yan, M. Sobani, L. Ruan, C. Wang, Y. Liu, X. Duan, H. Heinz, Y. Huang*

4:40 COLL 121. Fabrication of hierarchically ordered optically active nanocrystal solids by surface passivation using atomic layer deposition of metal oxides. *R. Bose, A. Dangerfield, S. Rupich, Y.J. Chabal, A. Malko*

5:00 COLL 122. Directed assembly and nano-soldering of multi-segment metallic nanowires. *J. Wang, F. Gao, C. Su, J. Su, H. Sun, Z. Gu*

5:20 COLL 123. Self-assembly of spatially-decorated metallic nanowires on a fluid interface. *G. Staelens, A.M. Jonas, B. Nysten, S. Demoustier-Champagne*

SECTION F

*Boston Convention & Exhibition Center
Room 157C*

Understanding Nano-Bio Interactions: Implications for Bio-imaging, Diagnosis & Treatment

B. Kim, S. Wilhelm, *Organizers, Presiding*

2:00 COLL 124. Correlating the interaction of colloidal nanoparticles with biological matter with their physicochemical properties. *W. Parak*

2:30 COLL 125. Structure-function relationships in the development of immunotherapeutic agents. *C.A. Mirkin*

3:00 Intermission.

3:10 COLL 126. Designer nanoparticles for intracellular targeting and delivery. *T.W. Odom*

3:40 COLL 127. Improving antitumor immunity through immuno-engineering. *M. Goldberg*

4:10 Intermission.

4:20 COLL 128. Interactions of amphiphilic ligand-coated gold nanoparticles with cells and tissues from the nano- to macro-scale. *D.J. Irvine*

4:50 COLL 129. CRISPRed macrophages for cell-based cancer immunotherapy. *Y. Lee, M. Ray, J. Hardie, M.E. Farkas, V.M. Rotello*

5:10 COLL 130. Multivalent bi-specific nanobioconjugate engager for targeted cancer immunotherapy. *C. von Roemeling, H. Yuan, W. Jiang, Y. Qie, X. Liu, Y. Chen, Y. Wang, R. Wharen, K. Yun, G. Bu, K. Knutson, B. Kim*

5:30 COLL 131. Engaging nanoparticle-cell interactions through "smart" design. *M.R. Mackiewicz*

SECTION G

*Boston Convention & Exhibition Center
Room 252B*

Nanomedicines: From Fundamentals to Applications

Clinical Translation

G. Han, Z. Wang, J. Xie, *Organizers*

Z. Gu, J. Zheng, *Organizers, Presiding*

2:00 COLL 132. Nanoparticulate delivery systems for RNA therapy and genome editing. *D.G. Anderson*

2:30 COLL 133. Discovery and translation of the cell membrane-coated nanoparticle technology. *L. Zhang*

3:00 COLL 134. Modified macrophages as cell-based delivery tools and therapeutic entities for cancer. *M.E. Farkas*

3:20 COLL 135. Overcoming biological barriers for circulation and targeting of nanoparticles. *S. Mitragotri*

3:50 COLL 136. Tolerogenic nanoparticles for the prevention of anti-drug antibodies - from concept to the clinic. *L. Johnston*

4:20 COLL 137. Universal and ultrastable mineralization coating bioinspired from biofilms. *Y. Xiao*

4:40 COLL 138. Adaptive treatment tolerance attenuated by nanotechnology-assisted drug delivery. *X. Liang*

5:10 COLL 139. Leverage physiology for bioresponsive drug delivery. *Z. Gu*

5:40 COLL 140. Insulin – containing silica nanoparticles with a high loading capacity and demonstration of bioactivity: Potential for oral delivery. *D. Hristov, F. McCartney, J. Beirne, S. Reid, E.A. Mahon, S. Bhattacharjee, G. Redmond, D. Brougham, D.J. Brayden*

SECTION H

*Boston Convention & Exhibition Center
Room 160A*

Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues

M. A. Ilies, *Organizer*

K. Sakurai, *Organizer, Presiding*

2:00 COLL 141. Helical polymer structure provides platinum-loaded polymeric micelles with favorable size and stability for effective tumor-targeting. *Y. Mochida, H. Cabral, Y. Miura, K. Osada, N. Nishiyama, K. Kataoka*

2:30 COLL 142. Photo-targeted nanoparticles for intravenous treatment of choroidal neovascularization. *Y. Wang, D.S. Kohane*

3:00 COLL 143. Oxidation-responsive nanolayered coatings for the on-demand delivery of therapeutic growth factors. *J.R. Martin, M.T. Funkenbusch, S. Wang, P.T. Hammond*

3:30 Intermission.

3:45 COLL 144. Increasing nanoparticle drug loading efficiency via self-assembly. *M.W. Grinstaff*

4:15 COLL 145. Block copolymer nanocarriers with peptide units for drug delivery. *M. Klapper, F. Karagoz, N. Wutke*

4:45 COLL 146. NIH/NIBIB funding for novel drug delivery technologies. *D. Rampulla*

SECTION I

*Boston Convention & Exhibition Center
Room 160B*

Surface Chemistry

Reactivity at Solid Surfaces & Ions at Liquid-Vapor Interfaces

S. L. Tait, *Organizer*

D. R. Killelea, T. Thuening, *Presiding*

2:00 COLL 147. Single-atom alloy catalysts: From theory to working catalysts through surface science characterization. *T. Thuening, M. Darby, R. Reocreux, A. Michaelides, M. Stamatakis, E.H. Sykes*

2:20 COLL 148. Selective oxidation of ethanol to acetaldehyde over TiO₂/Au(111). *A. Baber, D.T. Boyle, J. Wilke, V.H. Lam*

2:40 COLL 149. Influence of structure and composition on the surface chemistry of bimetallic Cu/Au model catalysts. *C. Baddeley, F. Grillo, R. Megginson, S. Francis*

3:00 COLL 150. Comparison of oxygen adsorption and absorption on rhodium, silver, and stepped platinum surfaces. *D.R. Killelea, R. Farber, M. Turano, L. Juurlink, E.V. Iski*

3:20 COLL 151. Syntheses, plasmonic properties, and catalytic applications of Ag-Rh core-frame nanocubes and Rh nanoboxes with highly porous walls. *D. Qin, Y. Zhang*

3:40 COLL 152. Surface chemistry of gold islands deposited on TiO₂(110). *R. Somaratne, J.E. Whitten*

4:00 Intermission.

4:20 COLL 153. Hydration mediated interfacial transitions on mixed hydrophobic/hydrophilic nanodroplet interfaces. *F. Kovacic, H. Okur, S. Roke*

4:40 COLL 154. Molecular insight into the carboxylic acid – alkali metal cations interactions: Reversed affinity and ion pair formation. *A.P. Stoeber, J. Hladilková, M. Lund, E. Tyrode*

5:00 COLL 155. Surface properties of hypobromite at the liquid-vapor interface studied by liquid jet XPS. *S. Chen, L. Artiglia, F. Orlando, X. Kong, P. Arroyo, M. Ammann*

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SUNDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall A*

Biomaterials & Biointerfaces

Posters

A. P. Goodwin, V. Gordon, *Organizers*

5:30 – 7:30

COLL 156. Using assembly of a chromonic mesogen to enable isolation and ligand-receptor binding studies of bacterial pilin protein. *A. Ibanez, Y.Y. Luk*

COLL 157. Trapping of antibacterial agents within hydrophobic films of polyphosphazene polyelectrolytes. *V. Albright, H. Hlushko, H. Nelson, C. Co, S. Armbrister, S. Hernandez, M. Andreo, A. Jayaraman, A. Marin, A.K. Andrianov, S.A. Sukhishvili*

COLL 158. Engineered functional amyloids as bionanomaterials: A synthetic biology approach. *E. Sahin Kehribar, M.E. Isilak, E. Kalyoncu, U. Seker*

COLL 159. Fluorescent single protein nanoparticles with dimensions controlled at angstrom resolution and improved thermal stability. *J. Ding, J. He, C.V. Kumar*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall A

Colloid & Surface Chemistry in Industry: Applications & Career Opportunities

Posters

H. Fairbrother, N. A. Falk, L. Tribe, *Organizers*

5:30 – 7:30

COLL 160. pH mediated cell uptake of alkyl carboxylate functionalized QB VLPs. *H. Lee, J.J. Gassensmith*

COLL 161. Modeling of magnetization in self-assembled magnetic nanocubes. *F. Sanaj*

COLL 162. Crystallite-size dependent bond length, elastic and thermal properties of nano-oxides. *S. Chan*

COLL 163. Synthesis and characterization of self-assembled peptide nanotubes: Scaffolds for neural cell differentiation. *P. Macha, L. Perreault, M. Vasudev, M. Mayes*

COLL 164. Peptide-based carriers for natural therapeutic molecules delivery. *Y. Hamedani, M. Vasudev*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall A

Fundamental Research in Colloids, Surfaces & Nanomaterials

R. Nagarajan, *Organizer*

5:30 – 7:30

COLL 165. 3D chiral microbuckles fabricated by asymmetric biaxial stretching. *M. Hwang, C. Kim, A. Jung, B. Kim, B. Yeom*

COLL 166. ⁶⁴Cu chelation-enabled multimodal imaging of porphyrin-lipid micro and nanobubble shell fate: Applications in therapeutic ultrasound. *M. Rajora, J. Chen, G. Zheng*

COLL 167. Study on changing rule of colloidal system properties in thermal cracking reactions. *J. Li*

COLL 168. Structure and dynamics of aqueous solutions containing poly-(acrylic acid) and non-ionic surfactant: A comparative study between pentaethylene glycol n-octyl ether (C₅E₅) and octaethylene glycol n-decyl ether (C₈E₈). *L. Kunche, U. Natarajan*

COLL 169. Evolution of bioinspired self-assembled materials in nucleic acid therapeutics and vaccines. *M. Gindy, A. Bett, G. Swaminathan, J. Smith, S. Secore, A. Latham, M. Patel*

COLL 170. High resolution nanoparticle sizing with Maximum A posteriori nanoparticle tracking analysis (MANTA). *K. Silmore, X. Gong, M. Strano, J. Swan*

COLL 171. Particle size distribution of food additives: Silicon dioxide study. *S.A. Khan, T.R. Croley*

COLL 172. Particle sizing of a food supplement in response to an EFSA request for characterization of potential nanomaterials. *R.I. Maccuspie*

COLL 173. General way to synthesize Sm-based nanomagnet. *B. Shen, S. Sun*

COLL 174. Cation distribution in composite quantum dots prepared by partial cation exchange. *C. Lin, S.E. Benjamin, H.D. Hall, M.L. Ary, X.A. Aguilar, J.W. Campbell, P.G. Van Patten*

COLL 175. New method of comparing photocatalysts by identifying reaction intermediates. *M. Croxall, M. Goh*

COLL 176. Acceleration of photoisomerization reaction of lophine dimers with inner environment of the micelles. *M. Akamatsu, K. Kobayashi, T. Suzuki, K. Sakai, H. Sakai*

COLL 177. Adsorption of amino acids onto TiO₂ nanoparticles: Towards understanding nano-bio interactions. *N.I. Gonzalez Pech, I. Ustunol, H. Wu, B. Kenney, V.H. Grassian*

COLL 178. Affinity chromatography measurements of metal ion binding to lipid membranes. *E.E. Ross*

COLL 179. Aggregation process of amyloidogenic peptides coated nano-gold colloidal particles. *I. Deshmukh, J. Lipka, K. Yokoyama*

COLL 180. Amino acid homology of peptide sequence as a determining factor in single pot reduction of Au nanoparticles. *C.J. Munro, M.R. Knecht*

COLL 181. Efficient route to amine functionalized siloxy gels. *B.P. Chauhan, G. Longia*

COLL 182. Analyzing the roles of surfactant mixtures containing aromatic additives and hexadecyltrimethylammonium chloride in the synthesis of gold nanorods. *I.W. Guo, B.D. Gates*

COLL 183. Antimicrobial carbohydrate-passivated gold nanostructures. *W. Ndigire, M. Yan*

COLL 184. Application of gold-silica core-shell nanostructures to treat glioblastoma associated with NHE9 overexpression. *L. Juratli, S. Nasser, A. Pall, K.C. Kondapalli, K. Bandyopadhyay*

COLL 185. Atomic resolution 3D reconstruction of single colloidal nanoparticle. *J. Heo, B. Kim, S. Kim, J. Park*

COLL 186. Biodegradable tetra-block copolymeric nanoparticles for MS1 anti-cancer peptide delivery. *N. Mehrotra, D. Gupta, S. Kharbanda, H. Singh*

COLL 187. Bio-functionalization of graphene oxide for antimicrobial and drug delivery applications. *I.A. Banerjee, M. Hugo, K.R. Fath*

COLL 188. Biopolymer functionalized liposomes for enhanced dispersion stability of nanovesicles. *L. Hyppolite, C. Winstead Casson*

COLL 189. Blood protein interaction with nanostructured glycocalyx mimetic surfaces. *M. Hedayati, M.M. Reynolds, D. Krapf, M. Kipper*

COLL 190. Characterization of surface chemical processes during the leaching of silver from a polymetallic sulfide by x-ray photoelectron spectroscopy and polarization microscopy. *D. Silva Quinones, J.C. Rodriguez-Reyes, A.V. Teplyakov, R. He*

COLL 191. Characterization of the antibacterial efficiency of metal nanoparticle-infused composite materials using epi-fluorescent optical trapping. *T.J. Beckmann, D.M. Danhausen, J.J. Keleher*

COLL 192. Characterizing solid electrolyte interphase-layer formation using x-ray photoelectron spectroscopy in solid-state Mg-ion batteries. *H.K. Henry, S. Lee*

COLL 193. Charge switchable nanozymes for imaging of biofilm-associated infections. *A. Gupta, R. Das, G. Yesilbag Tonga, T. Mizuhara, V.M. Rotello*

COLL 194. Chemical and structural analysis on the surface of quantum rods. *Y. Chen, E.G. Ripka, M.M. Maye*

COLL 195. Chemical environment of iron and nickel atoms in thin film magnets. *K. Kaur, S. Dehipawala, P. Samarasekara*

COLL 196. Click chemistry for loading a synthetic peptide (VHGW-(alkyne)-G-NH₂) onto functionalized silver nanoparticles and its antimicrobial activity against *Escherichia coli*. *M.R. Gakiya, L. Palomino, S. Pierce, A.M. Angeles Boza, J.C. Rodriguez-Reyes*

COLL 197. Coarse grained molecular dynamics simulations of rosette nanotubes using the MARTINI forcefield. *V. Karra, F.R. Hung, H. Fenniri*

COLL 198. CsPbX₃ ligand binding dynamics: A 2D diffusion and relaxation NMR study. *E.G. Ripka, C.R. Deschene, M.M. Maye*

COLL 199. Cytosolic siRNA delivery using nanoparticle-stabilized nanocapsules for *in vivo* anti-inflammatory therapy. *Y. Liu, Y. Jiang, J. Hardie, R. Das, R. Landis, V.M. Rotello*

COLL 200. Dense suspension rheology studies of attractive nanoemulsions for characterization of polymer chain conformation-driven dipolar interdrop association. *J. Lee, M. Sung, K. Shin, J. Kim, S. Hong, J. Kim*

COLL 201. Dermal-epidermal junction-targeted transdermal delivery using squasy, skin-adhesive polymeric nanovehicles. *S. Hong, J. Park, J. Kim, J. Lee, H. Lee, J. Kim*

COLL 202. Design of nickel nanoparticles for X-ray fluorescence microscopy to visualize cellular metal ion concentrations. *H. Sawab, M.R. Mackiewicz*

COLL 203. Determination of permethrin level on military uniform fabrics using desorption-gas chromatography-mass spectrometry. *J.B. Sennett, R.A. Pesce-Rodriguez, A.A. Bujanda, L.B. Blaudeau*

COLL 204. Developing the sapphire (0001) surface as a transparent substitute for mica for DNA nanostructure imaging. *M.L. Norton, M. Rahman, D. Neff, Z.T. Boggs*

COLL 205. Development of nucleic acid delivery system targeting Ras gene by β -glucan. *S. Sasaki, N. Fujiwara, H. Izumi, K. Sakurai, S. Mochizuki*

COLL 206. Development of tumor-specific double-stranded RNA delivery system using hyaluronic acid. *M. Umeda, S. Mochizuki*

COLL 207. Diatom-inspired silica nanoparticle coatings using an engineered mussel glue to accelerate bone growth on titanium-based implants. *Y. Jo, B. Choi, C. Kim, H.J. Cha*

COLL 208. Direct cytosolic co-delivery of siRNA and tamoxifen for enhanced breast cancer therapy. *J. Hardie, Y. Jiang, E. Tetrault, P. Ghazi, G. Yesilbag Tonga, M.E. Farkas, V.M. Rotello*

COLL 209. Direct, *in situ* visualization of graphene reaction dynamics via optical microscopy. *W. Li, M. Wojcik, Y. Li, K. Xu*

COLL 210. Dynamic double emulsions generated via *in situ* surfactant synthesis. *C.A. Zentner, T.M. Swager*

COLL 211. Effective removal of surface-bound cetyltrimethylammonium ions from PEG-protected Au nanorods by treatment with dimethyl sulfoxide/citric acid. *H. Kawasaki, R. Arakawa*

COLL 212. Effects of ALD layers on magnesium anode interface chemistry. *E. Sahadeo, C. Lin, G. Rubloff, S. Lee*

COLL 213. Effects of antifreeze proteins and their hyperactive mutants on calcite crystallization. *A. Kishishita, J.J. Lugo, F. Rojas, J.O. Castellon, X. Wen*

COLL 214. Encapsulation of plasmid DNA by cationic nanocarriers for cellular uptake by microspores. *J. Cho, P. Bhowmik, S. Dodard, P. Polowick, G. Nowak, H. Fenniri, U. Hemraz*

COLL 215. Engineered antibacterial nanosurfaces for field hospitals. *J.W. Moxley, T. Webster*

COLL 216. Engineering immune cell-derived hybrid exosomes for tumor-targeted drug delivery. *S. Rayamajhi, T. Nguyen, A. Elyyapura, R. Marasni, S. Aryal*

COLL 217. Engineering the magnetic permeability in magnetic nanoparticles using dendritic ligands. *J.D. Lee, D. Jishkariani, H. Yun, T. Paik, J.M. Kikkawa, C.R. Kagan, B. Donnio, C.B. Murray*

COLL 218. Engineering the titania nanostructure to optimize visible light-driven antimicrobial properties. *S. Wickramasinghe, Z. Jiang, X. Yu, A.C. Samia*

COLL 219. Enhanced charge separation in nitrogen-doped graphene quantum dots/graphitic C₃N₄ lateral heterostructures for photocatalytic H₂ evolution. *K. Yu, M. Goh*

COLL 220. Enzyme-polymer-cellulose colloids: Enzymes interlocked in the fibrous matrix of cellulose with enhanced stability while preserving activities. *C. Riccardi, C.V. Kumar, R. Kasi*

COLL 221. Fabrication of 1D photoreflexive multilayered films by layer-by-layer assembly and transfer method. *A. Jung, N. Ha, M. Hwang, B. Kim, B. Yeom*

COLL 222. Fabrication of drug-gluting coatings by harnessing electrostatic interactions with native protein films. *S. Gopalakrishnan, L. Wang, Y. Lee, V.M. Rotello*

COLL 223. Facile synthesis of iron oxide nanoparticles using atmospheric-pressure microplasmas. *L. Ching Yu*

COLL 224. Fast dopant migration in Mn:CdS/CdZnS/ZnS core/shell/shell quantum dots. *E. Hofman, Z. Li, A.H. Davis, W. Zheng*

COLL 225. Functionalized nanodiamonds in the investigation of aggregation phenomena. *L. Lott, C. Winstead Casson*

COLL 226. Generation of anisotropic gold and Au-Pd bimetallic nanoparticles on functionalized surfaces. *V. Gerios, A. Peer, K. Bandyopadhyay*

COLL 227. Highly anisotropic PtCu alloy nanostructures used as efficient electrocatalysts for oxygen reduction and methanol oxidation. *X. Cui, Z. Zhang, H. Zhang*

COLL 228. High-performance shear thickening behavior of a colloidal suspension of core-shell structure particles originated by inter-particle hydrogen bonding. *H. Son, K. Kim, J. Kim, K. Yoon, Y. Lee, H. Paik*

COLL 229. Hollow particles templated from Pickering emulsion and its application in coating shrinkage reduction. *X. Wang, G. Sun, R. Liu*

COLL 230. Impact of interfacial and bulk interactions between novel amphiphilic hydroxypropyl cellulose derivatives and bile salts on lipid digestion. *J. Zornjak, D. Novo, K.J. Edgar, C. Fernandez Gragaus*

COLL 231. *In vivo* antitumor effect of anti-Mamaglobin-A antibody conjugated to (-)-epicatechin loaded chitosan nanoparticles in a murine model of breast cancer. *A. Perez Ruiz, I. Olivares Corichi, F. Ganem Rondero, J. Garcia Sánchez*

COLL 232. *In vivo* gene editing in mice through systemic delivery of CRISPR/Cas9-ribonucleoprotein. *Y. Lee, D. Luther, Y. Liu, L. Castellanos, J. Hardie, R.W. Vachet, V.M. Rotello*

- COLL 233.** Infiltration and crystallization behavior of calcium carbonate precursor formulations in porous materials. *A.M. Hoyt, H. Cölfen*
- COLL 234.** *In-situ* electron diffraction tracking fast oxidation of nickel nanoparticles at ambient pressure. *Y. Jian, X. Zhang, Y. Wang, Y. Wang*
- COLL 235.** Interaction of silver nanoparticles with epidermal growth factor (EGF) in physiological media: Evaluation for their potential use in systems that improve the regeneration of epithelial tissues. *L. Palomina, S. Carney, M.R. Gakiya, A. Camardo, A. Ramamurthi, J.C. Rodriguez-Reyes*
- COLL 236.** Investigating the impact of nanoparticle shape on single nanocrystal photophysics. *J.J. Peterson, B. Mehlenbacher*
- COLL 237.** Investigation of selective growth of ALD alumina on functionalized HOPG surfaces. *M. Trought, I. Wentworth, T.R. Leftwich, K.A. Perrine*
- COLL 238.** Kinetic study of the adsorption of methylene blue onto chitosan: Evidence for non-Arrhenius behavior. *A.H. Pinto, J. Kellner-Rogers*
- COLL 239.** Kinetics of amino acid induced aggregation of silver nanoparticles. *K.I. Peterson, J. Smith, D.P. Pullman*
- COLL 240.** Kitchen Chemistry 102: Exfoliation of alpha-zirconium phosphate with proteins in a blender as an alternative to exfoliation by tetrabutyl ammonium hydroxide. *M. Malhotra, C.L. Baveghems, C.V. Kumar*
- COLL 241.** Laundering study of current and future FRACU (Flame-Resistant Army Combat Uniform) candidates. *P. Yip*
- COLL 242.** Long range interaction between corannulene molecules on (111) surface of noble metals. *X. Wen, K. Wu*
- COLL 243.** Magneto/plasmonic nanoliposomes for drug delivery applications: Synthesis and characterization. *G. Stiufluic, S. Nitica, V. Toma, A. Moldovan, C. Iacovita, M. Lucaciu, R. Stiufluic*
- COLL 244.** Management of gold nanorod synthesis with poly(vinylpyrrolidone) of different molecular weights in minor concentration. *K.I. Requejo Roque, A. Liopo, E. Zubarev*
- COLL 245.** Manganese doped two-dimensional CdS/ZnS core/shell nanoparticles. *A.H. Davis, W. Zheng, E. Hofman, K. Chen*
- COLL 246.** Detection of the onset of aggregation as a function of pH of iron oxide nanopowder by dynamic light scattering. *L. Szawast*
- COLL 247.** Measurement of carbon black particle size using a disc centrifuge photosedimentometer. *L. Szawast*
- COLL 248.** Measurement of graphene particle size using laser obscuration time technique. *L. Szawast*
- COLL 249.** Measurement of water partial molar volume in Aerosol-OT reverse micelles via microscopic imaging of the liquid surface. *C. Gallis, Z. Rickard, J.C. Deak*
- COLL 250.** Mesoporous graphene oxide-zeolite composites for efficient dye removals. *Y. Chang, Y. Chou, Z. Dai, Y. Yeh, Y. Liu*
- COLL 251.** Micellar water characterization: A laser light scattering application. *D. Castro*
- COLL 252.** Modeling of nanoparticle immersion and self-assembly at liquid-air interfaces. *T.T. Nitka, L. Vukovic*
- COLL 253.** Multicolored protein colloidal particles: Rational methods to enhance their photostabilities. *M. Limbacher, B.S. Stromer, J. Waldman, C.V. Kumar*
- COLL 254.** Multigram synthesis of Cu-Ag nanowires and its application in 3D printing. *M.A. Cruz, B.J. Wiley*
- COLL 255.** Multimicrometer noncovalent monolayer domains on layered materials through thermally controlled Langmuir-Schaefer conversion for noncovalent 2D functionalization. *T.R. Hayes, J. Bang, T.C. Davis, C.F. Peterson, D.G. McMillan, S.A. Claridge*
- COLL 256.** Multi-stimuli responsive Pickering emulsion based on coumarin surfactants and silica nanoparticles. *Y. Shijie, J. Jiang, Z. Cui*
- COLL 257.** Multi-stimuli responsive wormlike micelles based on conventional surfactants. *Q. Xu, J. Jiang, Z. Cui*
- COLL 258.** Nanofibrous scaffolds produced by electrospinning, rotary-jet spinning and airbrush for orthopedic tissue regeneration. *P. Ghannadian, J.W. Moxley, M. De Paula, T.J. Webster*
- COLL 259.** Nanogels of hyaluronic acid bi-modified with epigallocatechin-3-gallate and curcumin: Potent nano-inhibitor on amyloid β -protein aggregation and cytotoxicity. *Z. Jiang, X. Dong, Y. Sun*
- COLL 260.** Nanozymes for controlling localization and kinetics of bio-orthogonal reactions. *R. Das, G.Y. Tonga, R.F. Landis, P. Puangploy, M. Knapp, V.M. Rotello*
- COLL 261.** New approach of synthesizing anisotropic iron oxide nanoparticles with enhanced T_2 relaxation for MRI applications. *S. Wickramasinghe, S.F. Situ, E.C. Abenogor, B.O. Erokwu, C.A. Flask, Z. Lee, A.C. Saita*
- COLL 262.** New nanocomposites of silicon polymers and noble metal nanoparticles for applications in 3D printing. *B.P. Chauhan, N. Ampomah, K. Moran, Q. Johnson*
- COLL 263.** Nitrogen-doped graphene quantum dots/TiO₂ composite for photocatalysis. *R. Lawrence, M. Goh*
- COLL 264.** Novel synthetic method of chitosan functionalized liposomes as an innovative nanocarrier for chemotherapeutic drugs. *L. Hyppolite*
- COLL 265.** On the shuttling mechanism of a chlorine atom in a chloroaluminum phthalocyanine based molecular switch. *H. Song, H. Zhu, K. Wu*
- COLL 266.** Organic solvent dispersion of two-dimensional titanium carbide by the surface functionalization. *D. Kim, C. Koo, S. Cho*
- COLL 267.** Outstanding radical scavenging of transition metal dichalcogenide nanosheets via defect-mediated one-step hydrogen atom transfer in aqueous media. *J. Kim, J. Lee, S. Hong, J. Kim*
- COLL 268.** Pegylation of β -cyclodextrin for increased water solubility and biocompatibility in drug delivery applications. *K.T. Nguyen, R. Manasi, L. Rodriguez, Y. Ba*
- COLL 269.** Photoinduced metallic particle growth on single crystal relaxor ferroelectric strontium barium niobate. *E. Barnes, E. Alberts, L.C. Mimun, J. Brame, C. Warner, A.R. Harmon, A.R. Poda*
- COLL 270.** Polymeric nanoassemblies for direct delivery of active therapeutic proteins. *D.C. Luther, Y. Lee, F. Scaletti, R. Landis, V.D. Chaplin, M. Mingroni, L. Wang, M. Ray, R. Mout, V.M. Rotello*
- COLL 271.** Polymeric pH-activated nanoparticles for lipotoxic cell application. *K. Lopes, J. Zeng, M.W. Grinstaff*
- COLL 272.** Predominant thermodynamically controlled reactions for suppressing cross nucleations in formation of multinary substituted tetrahydrate nanocrystals. *S. Bera*
- COLL 273.** Preparation of flexible silver-colored organic crystals. *K. Yamada, Y. Takahashi, Y. Kondo*
- COLL 274.** Probe aggregation into the interfaces between mimicking raft and non-raft domains, induced by peptide nucleic acid (PNA) duplexes. *Y. Oka*
- COLL 275.** Production of bimetallic nanoparticles in vapor phase. *N. Sakono, K. Omori, K. Yamamoto*
- COLL 276.** Production of golden luster by mixing an azobenzene derivative with liquid crystals. *K. Fukushima, Y. Takahashi, Y. Kondo*
- COLL 277.** Programmable DNA nanoparticle: Self-assembly of pH-triggered nucleic acid ion complex. *N. Miyamoto, Y. Kitade*
- COLL 278.** Protein-polymer colloids: 17-fold enhanced activities of cytochrome c conjugated with poly(acrylic acid). *K.R. Benson, J. Gorecki, A. Nikiforov, R. Kasi, Y. Lin, C.V. Kumar*
- COLL 279.** QCM-D and spectroscopic study of cholesterolic liquid crystals for temperature-responsive materials. *K. Swana, P. D'Angelo, S. Levit, R. Stwodah, M. Gillard, C. Tang*
- COLL 280.** Rapid and scalable synthesis of sub-10 nm metal nanoparticles in on-the-fly aerosols. *Y. Yang, P. Ghildiyal, M.R. Zachariah*
- COLL 281.** Role of slurry chemistry on the nanoparticle redox behavior relevant to the shallow trench isolation chemical mechanical planarization process. *T. Zubi, C. Saucedo, K. Wortman-Otto, C. Graverson, J.J. Keleher*
- COLL 282.** Seedless, one-pot synthesis of infrared-absorbing silver nanoparticles. *N. Yamamoto, D.P. Pullman*
- COLL 283.** Self-healing, antibacterial host-guest coating doped nanoparticles. *L. Ge*
- COLL 284.** Self-propelled water based organo-silanes on glass. *M. Vasei, S. Poirier*
- COLL 285.** Silica modified candle soot layer-based SERS substrates for the ultrasensitive detection of biological molecules. *W. Qian*
- COLL 286.** Single-particle tracking for the routine characterization of polydisperse nanoparticle solutions. *X. Gong, M. Park, K. Sillmore, D. Parviz, T. Lew, M. Strano*
- COLL 287.** Solution synthesis of rectangular copper nanotubes and gold nanohelices. *Y. Chang, Y. Chang*
- COLL 288.** Solution-based crystal phase engineering of noble metal nanostructures. *Y. Chen, Z. Fan, H. Zhang*
- COLL 289.** Steering DBPET porous networks by the co-play σ -hole interactions of Br⁻ S and Br⁻ Br. *L. Xing, Z. Huang, K. Wu*
- COLL 290.** Study of the influence of pH and ionic strength on the stability of melamine formaldehyde (MF) resin by field flow fractionation technique. *L. Farmakis, J. Kapolas, A. Koliadima*
- COLL 291.** Successive ultraviolet irradiation of mixed monolayers removes molecules and re-orders self-assembled domains. *C. Gerber, R. Quardokus*
- COLL 292.** Supramolecular assembly onto polymer-supported Au monolayers fabricated via chemical lift-off lithography. *G.A. Vinnacombe, K.M. Cheung, G.E. Kunkel, A.E. Trojaniak, A. VanZanten, M.E. Anderson, P.S. Weiss*
- COLL 293.** Surface chemistry and spectroscopy study of α -synuclein and the NAC part. *O. Olaluwoye, S. Alrashdi, R. Castillo, C. Wang*
- COLL 294.** Surface engineering of graphene materials for advancing antimicrobial performance. *W. Kim, J. Son, H. Cho, S. Kim, J.S. Jeon, E. Cho*
- COLL 295.** Surface functionalization of cationic SDBS/CTAT vesicles. *M. Hurlay, P. Zayka, E. Holt, N. Soto, E. Robinson, P.R. DeShong*
- COLL 296.** Sustainable glucose oxidation with enzymatic magnetically recoverable catalysts. *B. Lawson, E. Golikova, A. Sulman, B.D. Stein, N. Lakina, A. Karpenkov, E. Sulman, V. Matveeva, L. Bronstein*
- COLL 297.** Synergistic nanosponge-antibiotic therapy for the treatment of biofilm associated infections. *C. Li, X. Chen, R. Landis, A. Gupta, J.M. Makabenta, V.M. Rotello*
- COLL 298.** Synthesis and characterization of composition-controllable platinum-copper-cobalt nanoalloy catalysts. *D. Caracciolo, D.M. Adrian, S. Shan, R. Robinson, J. Luo, C. Zhong*
- COLL 299.** Synthesis and evaluation of polyglycerol carbonate/polyester blend nanocarriers for paclitaxel delivery. *R. Sabatelle, I. Ekladios, N. Varongchayakul, C. Bordeianu, Y.L. Colson, M.W. Grinstaff*
- COLL 300.** Synthesis and properties of surface functional hyperbranched polymer nanoparticles. *Y. Lee, B. An*
- COLL 301.** Synthesis and self-assembly of magnetoplasmonic nanoparticles. *D. Lu*
- COLL 302.** Synthesis of alkanethiolate-capped palladium nanoparticles through reversed alkyl thiosulfate addition to control core size & tune surface ligand density. *K.M. Vargas, K. San, Y. Shon*
- COLL 303.** Synthesis of composition tunable platinum-based ternary nanoalloy catalysts for fuel cell applications. *Z. Wu, E. Hopkins, K. Park, S. Yan, J. Wang, J. Wen, J. Luo, L. Wang, C. Zhong*
- COLL 304.** Synthesis of eco-friendly biosurfactants from vegetable oils and characterization of interfacial properties for cosmetics and household products. *D. Yea, S. Jo, J. Lim*
- COLL 305.** Synthesis of high quality bio-graphene suspensions in water for use in a nystatinic radiator for outer space solar arrays. *M.K. Puglia, M. O'Neill, C.V. Kumar*
- COLL 306.** Synthesis of mesoporous silica decorated with titania nanoparticles and their photocatalytic activities. *B. Kim, A. Jung, M. Hwang, B. Yeom*
- COLL 307.** Synthesis, characterization and potential applications of nanoparticles based on naturally-occurring polymers. *O. Kvak, M. Goh*
- COLL 308.** Synthesis, self-assembly and gelation studies of ninhydrin based unnatural α -amino acids as low molecular mass gelators. *F. Zerin, J. Sloop, A.V. Mallia*
- COLL 309.** Targeted gene regulation by an enzyme degradable nucleic acid nanocapsule. *A. Hartmann, D. Cairns-Gibson, H. Barber, J.L. Rouge*
- COLL 310.** Assessment of bacterial interactions with surfaces through the estimation of the adsorption free energy. *N. Kotoulas, M. Goh*
- COLL 311.** Highly reproducible and eco-friendly synthesis and characterization of silver nanocrystals and their potential anticancer therapeutic properties. *D. Lomeli-Marroquin, R. Rangel-López, A. Nieto Arguello, D. Zárate-Triviño, J. Cholula-Díaz*
- COLL 312.** Thermodynamics of DNA looping for origami folding. *J.M. Majikes, D. Schifffels, M. Zwolak, S.P. Fory, J.A. Liddle*
- COLL 313.** Tuning properties of a family of azo-cholesterol liquid crystals for application as photo-controllable reaction media. *V. Chang, C. Li, C.J. Barrett*
- COLL 314.** Tuning the surface architecture of silver nanoparticles for use as anti-viral agents. *H. Wu, D. Demchenko, K.M. Stedman, M.R. Mackiewicz*
- COLL 315.** Ullmann-like surface reactions and self-assembly of dibromobenzenes and dibromo-bithiophenes. *M. Wolf, R. Quardokus*
- COLL 316.** Ultrathin PdCu alloy nanosheets for highly efficient electrocatalytic formic acid oxidation. *H. Cheng, N. Yang, H. Zhang*
- COLL 317.** Understanding nanoparticle growth mechanism with liquid cell TEM and computational analysis. *J. Kim, B. Kim, J. Park*

COLL 318. Understanding surface-mediated, emergent plasmonic properties of degenerately doped Cu₂Se semiconductor nanoparticles. *X. Gan, L. Marbella, D. Kaseaman, J. Millstone*

COLL 319. Viscosity and surface tension effects on metal sputtered onto low vapor pressure liquids. *M.M. De Luna, M. Gupta*

COLL 320. Water interaction with NiFe-based oxide films on Pt(111)/Al₂O₃(0001). *E. Carrasco, M.A. Niño, P. Perna, J. Camarero, D. Ecija, R. Miranda*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall A

Nanomaterials

Posters

J. A. Hollingsworth, R. Nagarajan, *Organizers*

5:30 – 7:30

COLL 321. Measurement of *Escherichia coli* using hemoglobin-capped fluorescent gold nanoclusters. *S. Tan, X. Pan, J. Kuo, T. Chang, K. Chen, T. Kuo*

COLL 322. Geometric and optical transformation of a supramolecular host-guest amphiphile. *C. Lo, J. Tian, W. Lindemann, J. Ortony*

COLL 323. 2D materials confined water. *Q. Li*

COLL 324. Laser pulse induced growth of unaggregated Sub-5 nm metal nanoparticles in free-standing graphene films. *Y. Yang, D.J. Kline, P. Ghildiyal, M.R. Zachariah*

COLL 325. Mechanism of osteocalcin interactions with hydroxyapatite surfaces and hydrogen phosphate precursors for bone mineralization. *M. Tavakol, S. Hoff, J. Liu, H. Heinz*

COLL 326. Modulation of mechanical properties of organic cocrystals and crystal designing: Impacts of isostructural and polymorphic functional groups. *K.K. Ray, S.M. Oburn, K.M. Hutchins, T.P. Rupasinghe, D.C. Swenson, L. MacGillivray, A.V. Tivanski*

COLL 327. Fabrication of monodisperse polymer microparticles coated with silica through droplet based microfluidic system. *D. Kim, S. Jin, S. Jeong, B. Lee, K. Kang, C. Lee*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall A

Nanomedicines: From Fundamentals to Applications

Posters

Z. Gu, G. Han, Z. Wang, J. Xie, J. Zheng, *Organizers*

5:30 – 7:30

COLL 328. Surface-ligand effect on radiosensitization of ultrasmall luminescent gold nanoparticles. *X. Jiang*

COLL 329. Using atomic force microscopy to evaluate ligand-mediated stabilization of EGaIn liquid metal nanoparticles. *S.S. Akhter, K. Dinyaryan, M.C. Foster*

COLL 330. Room-temperature ionic liquid based nanoemulsions: Synthesis and formulation for delivery of poorly water soluble active pharmaceutical agents. *M.M. Esson, S. Mecazzi*

COLL 331. Mechanically tunable inter-bonding, assembly and macrostructures of nanoparticles in biominerals. *Z.R. Tian, L. Hua*

COLL 332. Development of novel nanostructured pharmaceuticals to enhance solubility and overall biological performance. *R.V. Jones, E. Manek, F. Darvas*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall A

Surface Chemistry

Posters

S. L. Tait, *Organizer*

5:30 – 7:30

COLL 333. Comparing macrocycle assembly at surfaces and in solution: 2D stacking and 3D packing. *H.D. Castillo, J.M. Espinosa Duran, J. Dobscha, S. Debnath, J. Yang, Y. Sereida, K. Raghavachari, A.H. Flood, P. Ortoleva, S.L. Tait*

COLL 334. Preparation of fabrics with directional water-transport property. *L. Lao, D. Shou, Y. Wu, J. Fan*

COLL 335. Wax patterning on flexible plastics for biomedical, microfluidic and electrochemical applications. *A.Z. Qamar, S. Chen, K. Amar, P. Kohli, F. Chowdhury, M. Shamsi*

COLL 336. Transitioning to the field: *Operando* effects on chemical warfare agent decontamination with zirconium hydroxide. *R. Balow, G.C. Daniels, M.L. McEntee, W.O. Gordon, G. Peterson, J.H. Wynne, P.E. Pehrsson*

COLL 337. Quantum mechanical derived description of physical adsorption. *J.B. Condon*

COLL 338. Molecular detection and analysis of exosomes using surface-enhanced Raman scattering gold nanorods and a miniaturized device. *E. Kwizera, X. Huang, R.T. O'Connor*

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 152

Biomaterials & Biointerfaces

Engineering the Interface

A. P. Goodwin, V. Gordon, *Organizers*
W. Shields, *Presiding*

8:30 Introductory Remarks.

8:35 COLL 339. Interfacial structuring of chitosan hydrogel provide enhanced wear protection. *X. Banquy, J. Favier, R. Sudre, A. Montebault, S. Benayoun, T. Delair, L. David*

8:55 COLL 340. Mussel-inspired cellulose nanocomposite tough hydrogels with synergistic self-healing, adhesive and strain sensitive properties. *C. Shao*

9:15 COLL 341. Glycocalyx mimetic surfaces reduce blood protein adsorption and fibrin polymerization. *M. Hedayati, M.M. Reynolds, D. Krapf, M. Kipper*

9:35 COLL 342. Synergistic action of hyaluronic acid and lubricin prevents surface adhesion in articular joints. *H. Ye, R. Su, W. Greene, R. Huang, W. Qi, Z. He*

9:55 COLL 343. Enhancing and tuning the lectin binding behavior by functionalization of gold nanoparticles with precision glycomacromolecules. *S. Boden, K. Wagner, M. Karg, L. Hartmann*

10:15 Intermission.

10:35 COLL 344. Interfacing electron transfer proficient cells with metal surfaces using DNA. *A.L. Furst, M.B. Francis*

10:55 COLL 345. Ladderane phospholipids form dense, low-polarity membranes with low proton/hydroxide permeability. *F.R. Moss, S. Shukun, J. Mercer, C. Cohen, T. Weiss, N.Z. Burns, S.G. Boxer*

11:15 COLL 346. Tetrazine ligation-mediated layer-by-layer deposition for the development of antifibrotic patches. *H. Zhang, A. Ravikrishnan, X. Jia, J.M. Fox*

11:35 COLL 347. Supramolecular surfaces for protein immobilisation. *G. Di Palma, P. Mendes*

SECTION B

Boston Convention & Exhibition Center
Room 153A

Colloidal & Interfacial Science in Separation Processes

S. Ponnuram, P. Somasundaran, *Organizers*
I. Chernyshova, Q. Liu, *Organizers, Presiding*

8:30 COLL 348. Metal – modified hydroxyapatites and their affinities for ions and molecules in solution. *S. Alexandratos, A. Ashfaq, H. Benhaim, M. Kotlyar, R. Yeahia*

9:00 COLL 349. Design of batch, semi-batch, and continuous reactor through superhydrophobic filter. *H. Hu, M. Lehtinen, G. Liu*

9:25 COLL 350. Tunable and repeatable dye adsorption/desorption via organosilica nanoparticles with an intrinsic amine. *F. Chen, E. Zhao, J.V. Jokerst*

9:45 COLL 351. Effect of crystallite-size on the physical and chemical properties of nano-oxides. *S. Chan*

10:05 Intermission.

10:20 COLL 352. Encapsulation of nanoscale hybrid materials for innovative CO₂ capture. *W. Yu, M. Gao, A.A. Park*

10:50 COLL 353. Nanocomposite foam involving boron nitride nanoplatelets and polycaprolactone: Porous structures for oil spill cleanup. *L. Zhang, X. Tantai*

11:10 COLL 354. Chiral selectivity in heterogeneous catalysis. *R.C. Chapleski, S. Roy*

SECTION C

Boston Convention & Exhibition Center
Room 156C

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations

Nanocatalysis for Renewable Energy

H. Fan, Y. Sun, *Organizers*
J. He, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 COLL 355. Nanoparticle electrocatalysts for chemical valorization of carbon dioxide. *P. Yang, D. Kim*

9:05 COLL 356. Tuning catalytic activity in bimetallic transition metal phosphides via composition control. *S.I. Mutinda, D.M. Lyanage, D. Li, S.L. Brock*

9:35 COLL 357. Interfacial engineering in two-dimensional nanomaterials for electrochemical/photoelectrochemical water splitting. *X. Feng*

10:05 Intermission.

10:20 COLL 358. Designing nanoparticle/electrolyte interfaces for dye-sensitized solar fuels. *Y. Wu*

10:50 COLL 359. Sequential partial cation exchange reactions as a pathway to complex heterostructured nanoparticle libraries. *J.L. Fenton, B. Steimle, R.E. Schaak*

11:20 COLL 360. Cesium lead halide perovskite nanocrystals for designing tandem architectures. *V. Ravi, R. Scheidt, P.V. Kamat*

11:50 COLL 361. Nanocatalysts for green fuel production. *H. Zeng*

SECTION D

Boston Convention & Exhibition Center
Room 157A

Heating with Colloidal Nanoparticles: Physical Mechanisms & Applications in Life Science

P. del Pino, L. Liz Marzan, W. Parak, *Organizers*
S. Carregal-Romero, *Presiding*

8:30 COLL 362. Thermoplasmonics: Fundamentals and application to targeted hyperthermia. *R. Quidant*

9:00 COLL 363. Photothermal-driven drug-delivery nanopatform based on plasmonic zeolitic imidazolate frameworks. *C. Carrillo Carrión, P. del Pino*

9:30 COLL 364. Luminescent nanoparticles to optically monitor plasmonic heating within the biological windows. *M. Quintanilla, I. García, I. de Lázaro del Rey, S. Vranic, A. Sánchez-Iglesias, K. Kostarelos, L. Liz Marzan*

10:00 Intermission.

10:30 COLL 365. Nanomaterials for cell tracking applications - How to enhance the contrast. *N. Felio, W. Parak*

11:00 COLL 366. Stem cells transporting gold nanorods. *J.M. Berlin*

11:30 COLL 367. Heparin and clotting time measurements via photoacoustic imaging and a silica-nanoparticle/hydrogel hybrid. *J. Wang, F. Chen, S. Arconada, J.V. Jokerst*

SECTION E

Boston Convention & Exhibition Center
Room 157B

Nanomaterials

R. Nagarajan, *Organizer*

J. A. Hollingsworth, *Organizer, Presiding*

8:30 COLL 368. N- and P-doping of colloidal nanocrystal and nanowire assemblies. *C.R. Kagan*

9:00 COLL 369. To dope semiconductor nanocrystals: Chalcogenides to perovskites. *N. Pradhan*

9:30 COLL 370. Hybrid materials based on colloidal nanocrystals: From synthesis to emerging properties for energy storage in chemical bonds. *R. Buonsanti*

10:00 COLL 371. Synthesis, characterization and light-induced spatial charge separation in Janus graphene oxide. *A. Holm, J. Park, E.D. Goodman, J. Zhang, R. Sinclair, M. Cargnello, C.W. Frank*

10:20 COLL 372. From inside out: How buried interface, defects and surface determines performance of two giant core-shell quantum dots. *A. Singh, S. Majumder, N.J. Orfield, H. Htoon, J.A. Hollingsworth, K. Bustillo, J. Ciston*

10:40 COLL 373. Aggregation-induced emission in lamellar solids of colloidal perovskite quantum wells. *C. Shih*

11:00 COLL 374. Spectroscopic evidence of conduction band fine structure in colloidal HgTe quantum dots with well-defined intraband transitions. *M.H. Hudson, M. Chen, P. Guyot-Sionnest, D. Talapin*

11:20 COLL 375. Blue perovskite nanocrystals for quantum dot light emitting diodes. *M. Gangishetty, S. Hou, Q. Quan, D. Congreve*

11:40 COLL 376. Controlled dopant migration in core/shell semiconductor nanocrystals. *W. Zhang*

SECTION F

Boston Convention & Exhibition Center
Room 157C

Understanding Nano-Bio Interactions: Implications for Bio-Imaging, Diagnosis & Treatment

B. Kim, S. Wilhelm, *Organizers, Presiding*

8:30 COLL 377. Initial surface chemistry of nanoparticles has cascading impacts on biological systems. *C.J. Murphy*

COLL

9:00 COLL 378. Engineering unusual properties on the nanoscale: Smart nanomicelles for targeting tumor microenvironments. *S. Nie, J. Du*

9:30 Intermission.

9:40 COLL 379. Gold nanoparticle radiosensitization – the road traveled, the road ahead. *S. Krishnan*

10:10 COLL 380. Porphyrone nanotechnology: From discovery to translation. *G. Zheng*

10:40 Intermission.

10:50 COLL 381. Thermally triggered nano-assassins for pancreatic cancer therapy. *C. Hoskins*

11:20 COLL 382. Exploring nanoparticle architecture to design small, bright upconverting nanoparticles for bioimaging. *C. Siefe, R. Mehlenbacher, S. Fischer, A. Lay, J. Dionne*

11:40 COLL 383. Design and surface engineering of upconversion nanoparticles for bioassays. *M. Buchner, V. Muhr, S.F. Himmelstoss, L.M. Wiesholler, T. Hirsch*

12:00 COLL 384. Mechanosensitive upconverting nanoparticles for visualizing mechanical forces *in vivo*. *A. Lay, C. Siefe, S. Fischer, R. Mehlenbacher, A. Das, A. Nekimken, F. Ke, W.L. Mao, B. Pruitt, B.E. Cohen, P. Alivisatos, M. Goodman, J.A. Dionne*

SECTION G

*Boston Convention & Exhibition Center
Room 252B*

Nanomedicines: From Fundamentals to Applications

Delivery & Transport

Z. Gu, G. Han, J. Xie, *Organizers*

Z. Wang, J. Zheng, *Organizers, Presiding*

8:30 COLL 385. Therapeutic modification of the tumor microenvironment to overcome intratumoral transport barriers for nanomedicine. *J. Panyam*

9:00 COLL 386. Precision polymer architectures and molecular conjugates to enable therapeutics against undruggable targets. *C. Duvall*

9:30 COLL 387. Controlling *in-vivo* fate of liposomes using a photocleavable PEG corona. *A. Kros*

9:50 COLL 388. Multicompartmental nanoparticles for controlled release of combination therapies. *J. Lahann*

10:20 COLL 389. Engineered lipid-antibody based nano-assemblies for painting and surface modifications of red blood cells for therapy of blood borne cancers. *W.J. Smith, L.G. Nilewski, N.C. Gianneschi, D. Simberg*

10:50 COLL 390. Integrating synthetic protein chemistry and nanoparticles for intracellular delivery and targeted cancer therapy. *M. Wang, X. Yang*

11:20 COLL 391. Neutrophil-based drug delivery systems. *Z. Wang*

11:50 COLL 392. Tailoring renal clearance and tumor targeting of ultrasmall metal nanoparticles with particle density. *S. Tang, J. Zheng, C. Peng, J. Xu, B. Du, M. Yu*

SECTION H

*Boston Convention & Exhibition Center
Room 160A*

Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues

K. Sakurai, *Organizer*

M. A. Ilies, *Organizer, Presiding*

8:30 COLL 393. Delivery of chemically modified siRNAs for human therapeutics: From principles to patients. *M. Manoharan*

9:00 COLL 394. Attenuation of maladaptive responses in aortic adventitial fibroblasts through stimuli-triggered siRNA release from lipid-polymer nanocomplexes. *M.O. Sullivan*

9:30 COLL 395. DyNAVectors: Dynamic constitutional vectors for adaptive DNA delivery. *M. Barboiu*

10:00 Intermission.

10:15 COLL 396. Induction of potent cytotoxic T-lymphocyte activity using two types of polysaccharides. *S. Mochizuki, A. Moritaka, K. Sakurai*

10:45 COLL 397. Lymph node targeting of potent TLR7/8 agonist via acid sensitive amphiphilic polymers with high serum stability. *B. De Geest, S. Van Herck*

11:15 COLL 398. Synthetic charge-invertible micelles for rapid and complete implantation of LbL drug films coated on microneedle patches for enhanced transdermal vaccination. *Y. He, C. Hong, J. Li, M.T. Funkenbusch, Y. Li, D.J. Irvine, P.T. Hammond*

SECTION I

*Boston Convention & Exhibition Center
Room 160B*

Colloid & Surface Chemistry in Industry: Applications & Career Opportunities

Cosponsored by PROF

H. Fairbrother, N. A. Falk, L. Tribe, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 COLL 399. R&D careers at Clorox: My experience from grad school to industrial career. *N.A. Falk*

8:55 COLL 400. Careers in the startup environment. *B. Smith*

9:15 COLL 401. Emulsions with sustainable surfactants for personal care applications. *K. Whitaker, B. Beeson, B. Johnson, C.E. Mohler*

9:35 COLL 402. Chemistry and industrial careers. *A. Morfesis*

9:55 COLL 403. Importance of surfaces and interfaces in government and industry R&D. *S.R. Carlo, C.M. Soto, D.H. Mayo, B.T. Harlor, J.M. Considine, D. Allen*

10:15 COLL 404. Yes, HP Inc. is also a chemical company! *S. Courtenay*

10:35 COLL 405. LINX: Linking industry to neutrons & X-rays. *G. Smith, E. Brok, M. Schmiele, L. Arleth, K. Mortensen*

10:55 COLL 406. Applications of surface chemistry in the cosmetic industry. *H.S. Bui, G.S. Luengo*

11:15 COLL 407. Colloid and surface science in Cabot R&D. *A.T. Nikova*

11:35 COLL 408. Functional polycarbonate materials: Synthesis, modification, and application. *N. Park*

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces

Sponsored by GEOC, Cosponsored by COLL and ENVR

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL⁺, COLL and PHYS⁺

Surface, Interface & Coating Materials

Synthesis & Fabrication

Sponsored by PMSE, Cosponsored by COLL and POLY

MONDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 152*

Biomaterials & Biointerfaces

Engineering the Interface

A. P. Goodwin, V. Gordon, *Organizers*

A. L. Furst, *Presiding*

2:00 COLL 409. Mussel-inspired silicone oil swelling slippery surfaces with repeatable wettability recovering under extreme operating conditions. *B. Jin, Q. Zhang, X. Zhan, F. Chen*

2:20 COLL 410. Peptide adsorption on hydroxyapatite surfaces and implications on shape and mineralization: Impact of sequence and electrolyte pH. *J. Liu, S. Hoff, C. Pramanik, T. Jamil, S. VanOosten, K. Boone, C. Tamerler, H. Heinz*

2:40 COLL 411. Multifunctional macroporous biomaterial for drug delivery and efficient emulsion separations. *A. Ghimire, D. Ndaya, R. Kasi, C.V. Kumar*

3:00 COLL 412. Binding nanomaterials to living bacteria. *H. Dong, D.A. Sarks, J. Terrell, J.P. Jahnke, M. Hurley, D. Stratis-Cullum*

3:20 COLL 413. Incorporating silica particles improves the adhesion, flexibility, and hemostatic efficacy of a polymer blend surgical sealant. *J.L. Daristotle, S.T. Zaki, L. Torres Jr, L.W. Lau, A. Zografos, O.B. Ayyub, A.D. Sandler, P. Kafinas*

3:40 Intermission.

4:00 COLL 414. Nanogels of zwitterionic polymer-curcumin conjugates function as a potent inhibitor of amyloid β -protein fibrillogenesis and cytotoxicity. *G. Zhao, X. Dong, Y. Sun*

4:20 COLL 415. Three ways of fine-tuning cell adhesion to synthetic surfaces. *J.B. Schlenoff, R. Surmaitis, D. Delgado, C. Arias*

4:40 COLL 416. kT-scale interactions between zwitterionic coated colloids and biomaterial surfaces. *M.A. Bevan*

5:00 COLL 417. Protein encapsulation using cationic copolymers in the presence of zwitterionic surfactants. *A. Erfani, N.H. Flynn, J.D. Ramsey, C. Aichele*

SECTION B

*Boston Convention & Exhibition Center
Room 153A*

Colloidal & Interfacial Science in Separation Processes

Q. Liu, S. Ponnurangam, P. Somasundaran, *Organizers*

I. Chernyshova, *Organizer, Presiding*

E. Roberts, *Presiding*

2:00 COLL 418. Removal of silica from oil-sands produced water by electrocoagulation. *E. Roberts, B. Fuladpanjeh-Hojaghan, T. Shu, N. Yasri, M. Trifkovic*

2:25 COLL 419. Unconventional interfacial reactivity of metal sulfides: Relation to mineral separation. *H.R. Kota*

2:50 COLL 420. Silica supported sterically hindered amines for CO₂ capture. *J. Lee, C. Yoo, C. Chen, S.E. Hayes, C. Sievers, C.W. Jones*

3:15 COLL 421. Novel conducting composites for enhanced separation of salt from brackish water. *S. Ponnurangam, C. Ai, V.I. Birss*

3:35 COLL 422. Redox interfaces for electrochemically-mediated separations of heavy metal contaminants. *X. Su, T. Hatton*

SECTION C

*Boston Convention & Exhibition Center
Room 156C*

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations

Ligand & Support Effects on Nanocatalysis

H. Fan, J. He, *Organizers*

Y. Sun, *Organizer, Presiding*

2:00 COLL 423. Controlling selectivity on metal nanoparticles with organic monolayers. *J.W. Medlin*

2:30 COLL 424. Plasmonic catalysis as a means for sustainable transformations. *A.H. Maiores, M. Landry, A. Gelle, C.J. Barrett*

3:00 COLL 425. Synthesizing cooperative metal-support interfaces for catalysis. *S. Dai*

3:30 Intermission.

3:45 COLL 426. Chemical transformations in mesoporous transition metal oxides. *S.L. Suib*

4:15 COLL 427. Single-facet dominant anatase TiO₂ (101) and (001) model catalysts to elucidate the active sites for alkanol dehydration. *Y. Chen, L. Zhang, H. Wang, D. Mei, L. Kovarik, F. Gao, B. Sudduth, E. Iglesia, Y. Wang*

4:45 COLL 428. Reactivity of a heterostructured plasmonic biomaterial: Gold nanoparticles on ferritin. *D.R. Strongin, E.B. Cerkez, Y. Ghidry, A. Bruefach, F. Alimohammadi, A. Valentine*

SECTION D

*Boston Convention & Exhibition Center
Room 157A*

Basic Research in Colloids, Surfactants & Nanomaterials

Nanomedicine

R. Nagarajan, *Organizer*

C. Grazon, *Presiding*

2:00 COLL 429. Engineering the nano-bio interface for nanomedicine applications. *K. Hamad-Schiffnerli*

2:20 COLL 430. Assessment of nanoparticles disruption to quantify drug delivery *in vitro*. *E. Nogueira, A. Loureiro, A. Cavaco-Paulo*

2:40 COLL 431. Development of target-specific 2A3 antibody-conjugated gold nanoclusters for assessment of cancer progression and inhibition of cancer cell proliferation. *J. Kuo, S. Tan, X. Pan, K. Chen, T. Chang, T. Kuo*

3:00 COLL 432. Soysome: A new class of self-assembled colloid from soybean oil fatty acids for nanoscale drug delivery applications. *M.A. Quadir, R. Chitemere, D.C. Webster*

3:20 COLL 433. Structural remodeling of high-density lipoproteins in patients with diabetes mellitus. *C.L. Baveghems, S. Jayaraman, O. Rursky*

3:40 COLL 434. Silicon nanostructures for high-throughput intracellular gene delivery. *C. Zhao, Q. Yang, S. Hou, X. Xu, N. Wattanatorn, W. Liu, H. Tseng, S.J. Jonas, P.S. Weiss*

4:00 COLL 435. Coacervation-based model systems for intracellular compartmentalization. *A. Marianelli, B. Miller, M. Sherman, C.D. Keating*

4:20 COLL 436. Gold nanoparticles as radiosensitizers demonstrated in a chick chorioallantoic membrane model. *C.S. Filgueira, F. Ferraro, V. Vighetto, N. DiMarzio, R. Pathak, H. Liu, A. Pandey, M. Villanueva, C. Chua, S. Mitra, A. Sikora, N.J. Halas, A. Gratton*

4:40 COLL 437. Non-cationic RNA-polymer complexes for RNA interference. *Z. Jiang, W. Cui, J. Mager, S. Thayumanavan*

5:00 COLL 438. Scalable fabrication of one- and two-dimensional gold nanostructures for plasmonic biosensing applications. *C. Zhao, X. Xu, A.R. Ferhan, N. Chiang, J.A. Jackman, Q. Yang, W. Liu, A.M. Andrews, N. Cho, P.S. Weiss*

5:20 COLL 439. Nano-scale interfacial reversible protein folding of amyloidogenic peptides. *K. Yokoyama*

SECTION E

*Boston Convention & Exhibition Center
Room 157B*

Nanomaterials

J. A. Hollingsworth, R. Nagarajan, *Organizers*
R. Buonsanti, *Presiding*

2:00 COLL 440. Colloidal nanocrystals of APbX_3 perovskites $[\text{A}=\text{Cs}^+, \text{CH}_3\text{NH}_3^+, \text{X}=\text{Cl}, \text{Br}, \text{I}]$: Surface chemistry, self-assembly and potential applications. *M. Kovalenko*

2:30 COLL 441. Utility of PEGylated dithiolane ligands for controlled synthesis of water-soluble metal nanocrystals. *E. Oh, K. Susumu, C. Klug, J. Delehanty, A. Huston, I. Medintz*

3:00 COLL 442. Continuous flow synthesis of semiconductor nanoparticles using a modular millifluidic platform. *A. Vikram, V. Kumar, U. Ramesh, K. Balakrishnan, N. Oh, K. Deshpande, T. Ewers, P. Trefonas, M. Shim, P.J. Kenis*

3:40 COLL 443. Synthesis of alloy nanoparticles via sputtering onto a liquid polymer. *M.T. Nguyen, T. Yonezawa, L. Deng*

4:00 COLL 444. Graphene inks as versatile templates for printing tiled metal oxide crystalline films. *M. Liu, R. Hurt*

4:20 COLL 445. Highly functionalized water-soluble fullerene derivatives: Cage size affects hierarchical self-assembled structures. *I. Rasovic, K. Porfyraakis*

4:40 COLL 446. Noncovalently functionalized 2D materials template solution growth of ultranarrow gold nanorods along 1-nm-wide rows of functional headgroups. *A.G. Porter, T. Ouyang, T.R. Hayes, S.R. Russell, S.A. Claridge*

5:00 COLL 447. Azide-alkyne click conjugation on quantum dots by selective copper coordination. *V. Mann, A. Powers, D. Tilley, J. Sack, B.E. Cohen*

5:20 COLL 448. New insights regarding the local atomic structure and magnetic properties in sub-10 nm iron oxide nanocrystals produced by a living growth process. *S. Cooper, J.E. Hutchison*

SECTION F

*Boston Convention & Exhibition Center
Room 157C*

Understanding Nano-Bio Interactions: Implications for Bio-Imaging, Diagnosis & Treatment

B. Kim, S. Wilhelm, *Organizers, Presiding*

2:00 COLL 449. Mitigating the off-target toxicity of nanomedicines through controlled release. *Y. Xia*

2:30 COLL 450. Nanoparticle-based approaches to drug delivery to peripheral nerve for pain and other conditions. *D.S. Kohane*

3:00 Intermission.

3:10 COLL 451. Kidney-targeting peptide amphiphile micelles toward renal drug delivery. *J. Wang, E. Chung*

3:40 COLL 452. Multifunctional zero- and one-dimensional nanomaterials for imaging, sensing and multidrug delivery. *A. Naumov, M. Hasan, E. Campbell, R. Gonzalez-Rodriguez, G. Akkaraju*

4:10 Intermission.

4:20 COLL 453. Intrinsically radiolabeled nanomaterials. *W. Cai*

4:50 COLL 454. Enhancing nanoparticle delivery to the tumor with a targeted agent and light. *M. Overchuk, K.M. Harmatys, S. Sindhwani, A.M. Syed, J. Chen, M.G. Pomper, W. Chan, G. Zheng*

5:10 COLL 455. Novel catalytically active gold nanocrystals electrochemically grown in water by a continuous method. *M. Merzlyakov, A. Dorfman, D.K. Pierce, D. Bryce, M. Mortenson*

5:30 COLL 456. Electrochemically grown, clean surfaced gold nanocrystals exhibit a very favorable safety profile in rodents, canines, and humans. *A. Dorfman, M. Hotchkiss, M. Merzlyakov, G. Frick, M. Mortenson*

SECTION G

*Boston Convention & Exhibition Center
Room 252B*

Nanomedicines: From Fundamentals to Applications Imaging & Targeting

Z. Gu, Z. Wang, J. Xie, *Organizers*

G. Han, J. Zheng, *Organizers, Presiding*

2:00 COLL 457. SERS nanoparticles in medicine: New opportunities for spectroscopic cancer detection and image-guided surgery. *S. Nie, L.A. Lane, R. Xue*

2:30 COLL 458. Optically activated nanomedicines. *T. Hasan*

3:00 COLL 459. Patient-tailored immunotherapies enabled by multimodal ImmunoPET-Raman imaging. *R. Bardhan, Y. Ou, A. Mahadevan-Jansen, T.E. Peterson, M. Nickels, H.C. Manning*

3:20 COLL 460. Biomedical applications of porphyrin-phospholipid liposomes. *J.F. Lovell*

3:50 COLL 461. Molecular afterglow imaging of semiconducting polymer nanoparticles. *K. Pu*

4:20 COLL 462. Ultrasound-triggered micro-to-nano conversion: Extending porphyrin-bubble theranostic potential beyond the vasculature. *C. Pellow, D. Goertz, G. Zheng*

4:40 COLL 463. Remotely targeted and triggered nanomedicine. *D.S. Kohane*

5:10 COLL 464. From molecules to mammals: Inventing luminescent nanoparticles for biology. *G. Han*

5:40 COLL 465. Design and preparation of near infrared absorbing BODIPY nanoparticles: Applications in photodynamic therapy. *L. Huang*

SECTION H

*Boston Convention & Exhibition Center
Room 160A*

Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues

M. A. Ilies, K. Sakurai, *Organizers*

M. Chorny, *Presiding*

2:00 COLL 466. Drug delivery for ovarian cancer: The role of surface chemistry and administration route for targeting therapeutics with layer-by-layer nanoparticles. *S. Correa, N. Boehnke, A. Barberio, M.A. Quadir, E.C. Dreaden, P.T. Hammond*

2:30 COLL 467. Biologically inspired design consideration for polymeric anticancer nanomedicine. *S. Aryal, T. Nguyen, A. Pitchaimani, R. Marasni*

3:00 COLL 468. Mutual prodrugs for treating aggressive neuroblastoma with biodegradable nanocarriers. *I.S. Alferiev, D. Guerrero, F. Nguyen, P. Guan, V. Kolla, I. Fishbein, G.M. Brodeur, M. Chorny*

3:30 Intermission.

3:45 COLL 469. Gd-DTPA-dialkylamine with $\alpha\text{-NO}_2$ -benzylalcohol group: Synthesis and self-assembled behaviors for T_1 -enhanced magnetic resonance imaging and light-controlled drug carriers. *C. Liu, K. Ewert, Y. Li, C.R. Safinya, W. Qiao*

4:15 COLL 470. Multiple stimuli-responsive fluorescent micelles based on the self-assembly hyperbranched polymer for drug delivery and release. *M. Xu, H. Hailong*

4:45 COLL 471. Remotely controlled assembly and biocatalytic release of cargo molecules. *S. Minko, A. Zakharchenko, E. Katz*

SECTION I

*Boston Convention & Exhibition Center
Room 160B*

Colloid & Surface Chemistry in Industry: Applications & Career Opportunities

Cosponsored by PROF

H. Fairbrother, N. A. Falk, L. Tribe, *Organizers, Presiding*

2:00 COLL 472. Mixing up better products in microgravity. *M. Lynch*

2:20 COLL 473. Research experiences at E Ink Corporation. *J. Anseth*

2:40 COLL 474. Working for a rapidly growing small company. *R.I. Maccuspie*

3:00 COLL 475. Nanotechnology innovations and career opportunities at Savannah River National Laboratory. *S. Hunyadi Murph*

3:20 COLL 476. Wettability modification to enhance productivity in natural gas wells. *J.R. Baran*

3:40 COLL 477. How to train students to be independent scientists at Colgate. *L. Pan*

4:00 COLL 478. Research career at an army laboratory: Colloid and surface science research to support soldier performance optimization. *R. Nagarajan*

4:20 COLL 479. Development and integration of droplet-based microfluidic technologies into industrial research. *C. Nelson, N. Loufakis, K. Whitaker, D. Miller, A. Schmitt, A. Gizesiak, C.E. Mohler*

4:40 Panel Discussion.

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces

Sponsored by GEOC, Cosponsored by COLL and ENVR

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL[†], COLL and PHYS[†]

Undergraduate Research Posters

Colloid & Surface Chemistry

Sponsored by CHED, Cosponsored by COLL and SOCED

Surface, Interface & Coating Materials

Theory, Simulation & Mechanism Study

Sponsored by PMSE, Cosponsored by COLL and POLY

MONDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Sci-Mix

R. Nagarajan, *Organizer*

8:00 – 10:00

35, 62, 82, 120, 122, 130, 166, 177, 180, 182-183, 185-186, 188-189, 193-194, 197-199, 209-210, 213, 215-216, 220, 222, 225, 231-234, 237-238, 240, 242, 244, 250, 254-255, 258, 260, 272, 278, 280, 282, 291-292, 297-299, 302, 305, 312-313, 317-318, 326, 334, 336, 338, 384, 444-445, 454, 462. See previous listings.

523, 542, 600, 602, 604, 611, 614, 631, 681-682, 704, 715, 758, 775. See subsequent listings.

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 152*

Biomaterials & Biointerfaces

V. Gordon, *Organizer*

A. P. Goodwin, *Organizer, Presiding*

8:30 COLL 480. Comprehensive screening of neuronal behavior on gradient micro-alignment topographies. *R. McNaughton, Y. Huo, G. Li, H. Man, X. Zhang*

8:50 COLL 481. Dampening immune responses with polyphenol multilayer coatings for islet transplantation. *V.A. Kozlovskaya, J.M. Barra, H. Tse, E.P. Kharrampieva*

9:10 COLL 482. Synthesis and design of a biomimetic conductive nanocomposite for responsive wound management technology. *H.R. Lange, C.X. Loza, L.K. Werth, W.E. Chura, J.J. Keleher*

9:30 COLL 483. Adaptation of charge and hydrophilicity of native protein on surfaces employing thermal treatment in fluorosulfonic media. *S. Gopalakrishnan, L. Wang, Y. Lee, J. Zhu, S. Nonnenmann, V.M. Rotello*

9:50 COLL 484. Investigating the morphological and mechanical properties of amyloid fibril formation using atomic force microscopy (AFM) for biomaterial applications. *S. Gokalp, M.C. Foster*

10:10 COLL 485. Therapeutic luminal coating of the intestine. *Y. Lee*

10:30 Intermission.

10:50 COLL 486. Hyaluronan density influences adhesion, morphology and migration of cancer cells. *A.M. Carvalho, D. Soares da Costa, R. Reis, I. Pashkuleva*

11:10 COLL 487. Photodegradable polyacrylamide gels for dynamic modulus control of cell culture platforms. *S.C. Norris, J. Soto, S. Li, A.M. Kasko*

11:30 COLL 488. Elastomeric particles for cell and biomarker isolation in acoustofluidic devices. *W. Shields, K.A. Ohiri, L.M. Johnson, A.L. Li, G.P. Lopez*

11:50 COLL 489. Discoid silica nanoparticles for stem cells tracking by ultrasound imaging. *F. Chen, M. Ma, J. Wang, S. Chen, E. Zhao, A. Jhunjunwala, S. Darmadi, H. Chen, J.V. Jokerst*

12:10 COLL 490. Phage colloids: Bacteriophages link enzymes to magnetic colloids for catalysis and micropumps. *M. Alarcón-Correa, J. Günther, S. Knoppe, J. Troll, V.M. Kadiri, D. Rothenstein, J. Bill, P. Fischer*

SECTION B

*Boston Convention & Exhibition Center
Room 153A*

Toward Atomic Precision in Controlling the Low Dimensional Materials

G. Chen, R. Jin, G. Wang, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 COLL 491. Single-atom tailoring of metal nanoparticles. *R. Jin*

9:15 COLL 492. Organic reaction catalysed by atomically precise metal nanoclusters. *M. Zhu*

9:55 Intermission.

10:25 COLL 493. Tailoring the structure of 58-electron gold nanoclusters: Au₁₀₃S₂(SNaP)₄₁ and its implications. *T. Higaki, R. Jin*

10:45 COLL 494. Molecular "surgery" and beyond: Understanding heterometal doping in atomically precise nanoclusters. *M.G. Taylor, Q. Li, R. Jin, G. Mpourmpakis*

11:05 COLL 495. Structural and electronic characterization of CoO nanoislands on Au(111) using LT-STM. *A. Sanchez-Grande, J. Rodríguez-Fernández, E. Carrasco, K. Lauwaet, J. Fester, R. Miranda, J. Lauritsen, D. Eciija*

SECTION C

*Boston Convention & Exhibition Center
Room 156C*

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations

Ligand & Support Effects on Nanocatalysis

H. Fan, J. He, *Organizers*

Y. Sun, *Organizer, Presiding*

8:30 COLL 496. Enhancing nanoparticle catalysis for chemical transformations. *S. Sun*

9:00 COLL 497. Metal and metal oxide nanoparticles encapsulated inside of zeolite crystals as highly efficient heterogeneous catalysts for chemical transformation. *F. Xiao*

9:30 COLL 498. Controlled encapsulation of nanoparticle catalysts into nanoporous materials. *C. Tsung*

10:00 Intermission.

10:15 COLL 499. Layer-by-layer assembly of colloidal nanosheets with individually differing properties to generate improved water oxidation catalysts. *M. Zdilla, R. Ding, I. McKendry, R. Remsing, H. Peng, J.P. Perdew, D.R. Strongin, Q. Kang, A. Thenuwara, E. Borguet, Y. Aulin*

10:45 COLL 500. Transformation pathways of bimetallic nanoparticles at atomic scale. *Y. Wang*

11:15 COLL 501. Multimetallic nanocrystals and their surface and interface electrocatalysis. *S. Guo*

11:45 COLL 502. Fabrication and application of inorganic nanoparticle superstructures. *Z. Tang*

SECTION D

*Boston Convention & Exhibition Center
Room 157A*

Basic Research in Colloids, Surfactants & Nanomaterials

Nanomaterials-Synthesis, Growth & Assembly

R. Nagarajan, *Organizer*

J. Reiner, *Presiding*

8:30 COLL 503. Solutions for catalysis: A surfactant-free synthesis of precious metal nanoparticle colloids in mono-alcohols for catalysts with enhanced performances. *J. Quinson, S. Neumann, J. Bucher, M. Inaba, S. Simonsen, L. Theil Kuhn, M. Oezaslán, S. Kunz, M. Arenz*

8:50 COLL 504. Cation exchange as a route to quantum dot synthesis: Are the daughter quantum dots inherently defective? *C. Lin, S.E. Benjamin, H.D. Hall, M.L. Ary, X.A. Aguilar, J.W. Campbell, P.G. Van Patten*

9:10 COLL 505. Photoinitiated growth of silver nanoparticles in solutions of organic acids. *D.P. Pullman, N. Yamamoto, R. Leslie, M. Keogh*

9:30 COLL 506. Controlled packing and phase transitions via templated evaporative colloidal assembly. *C. Shillingford, V. Grebe, A. McMullen, M. Weck*

9:50 COLL 507. Nanopore observations of pH dependent fluctuations in mercaptobenzoic-capped gold nanoclusters. *B. Cox, P. Woodworth, M. Bertino, J. Reiner*

10:10 COLL 508. Crystal face identification by Raman spectroscopy and application to the epitaxial growth of acetaminophen. *T.K. Wijethunga, J. Stojaković, M. Bellucci, X. Chen, A.S. Myerson, B. Trout*

10:30 COLL 509. Kinetics of self-assembly: Experimental probes of noble metal nanoparticle formation. *M. Watzky, H. Sandoe, A. Ethridge*

10:50 COLL 510. Engineering the assembly of semiconducting two-dimensional materials prepared by molecular tweezer chemical exfoliation technique. *M.A. Mahmoud, M. Abdul-moqueet*

11:10 COLL 511. Mechanically robust thin films coatings from functionalized silica nanoparticles. *M. Barak, F.C. Cebeci, E.B. Sevinis Ozbulut*

11:30 COLL 512. Multi-pronged biomimetic approach to create optically tunable nanoparticles. *K.M. Harmatys, J. Chen, D.M. Charron, C.M. MacLaughlin, G. Zheng*

11:50 COLL 513. InP-based alloy quantum dots and their compositional effects on thermal/chemical stability. *R.P. Brown, Z. Rosenzweig*

SECTION E

*Boston Convention & Exhibition Center
Room 157B*

Nanomaterials

J. A. Hollingsworth, R. Nagarajan, *Organizers*

A. Joshi, *Presiding*

8:30 COLL 514. Colloidal nanoparticles directly observed by multi-dimensional liquid phase TEM. *B. Kim, J. Heo, S. Kim, J. Kim, D. Lee, J. Park*

9:00 COLL 515. High-resolution single molecule force spectroscopy using carbon nanotubes in an optical tweezer. *D.J. Jackson, M. Kamenetska*

9:30 COLL 516. Architecting corrosion-resistant alloys through nanoscale morphology. *A. Smith, Y. Balogun, X. Ye*

9:50 COLL 517. Informing nanocrystal synthesis via correlated atomic structure and single nanocrystal photophysics. *J.R. McBride, K. Reid, S.J. Rosenthal*

10:10 COLL 518. Single-crystal electrochemistry reveals why nanowires grow. *B.J. Wiley*

10:30 COLL 519. In-situ measuring the electronic structure of nanocrystal thin films using energy-resolved electrochemical impedance spectroscopy. *S. Volk, N. Yazdani, O. Yarema, M. Yarema, V. Wood*

10:50 COLL 520. Submolecular resolution spectroscopic imaging for photoactive molecules and assemblies. *S. Wang, N. Chiang, N. Wattanatorn, P.S. Weiss*

11:10 COLL 521. Field effect transparency of 2D materials: A multiscale analysis. *T. Tian, P. Rice, E.J. Santos, C. Shih*

11:30 COLL 522. Contact resistance of carbon nanotubes in vertically aligned carbon nanotube forest. *M. Li, N. Yang, V. Wood, H. Park*

SECTION F

*Boston Convention & Exhibition Center
Room 157C*

Basic Research in Colloids, Surfactants & Nanomaterials

Nano-Bio Interactions

R. Nagarajan, *Organizer*

K. Hamad-Schifferli, *Presiding*

8:30 COLL 523. Semiconductor nanoplatelets: A new class of ultrabright and biocompatible probes for biological applications. *D. Kechkeche*

8:50 COLL 524. Fluorescent nanoparticle sensor for hormones based on a native microbial transcription factor. *C. Grazon, T. Nguyen, R.C. Baer, U. Kuzmanovic, M. Chern, M. Chen, M. Zamani, A. Fan, X. Zhang, S. Lecommandoux, C. Klapperich, A.M. Dennis, M.W. Grinstaff, J. Galagan*

9:10 COLL 525. Integrated multifunctional nanoplatform based on superparamagnetism and near-infrared to near-infrared photoluminescence for deep-tissue dual-mode imaging. *F. Yang, A. Skripka, A. Benayas, X. Dong, S. Hong, F. Ren, J. Oh, X. Liu, F. Vetrone, D. Ma*

9:30 COLL 526. Antifouling zwitterionic quantum dot surface chemistry: Impact on intracellular diffusion. *N. Lequeux, T. Pons, M. Dahan, E. Balloul, M. Debayle*

9:50 COLL 527. Probing bio-nano interactions with colloidal poly(ethylene glycol) particles. *J. Cui*

10:10 COLL 528. Life and death in a bacterial biofilm under antibiotic attack characterized by fluorescence and atomic force microscopy. *C.B. Valle, H. Greer, K. Overton, M. Nunez, M.A. Ferguson, E.M. Spain*

10:30 COLL 529. Developing gold nanoparticles for inhibiting cancer metastasis. *Y. Wu, M.R. Ali, M.A. El-Sayed*

10:50 COLL 530. Biofragment responsive diffraction grid sensor: Using specific binding molecule conjugated hydrogel. *W.S. Jinn, B. Kang, M. Shin, S. Oh, B. Mun, S. Haam*

11:10 COLL 531. Investigation of nanoscale interfacial interaction of amyloid beta peptide. *K. Yokoyama*

11:30 COLL 532. Temperature-controlled adhesion of bacteria and lectins to carbohydrate presenting microgel films. *T.J. Paul, C. Spormann, P. Watermann, S. Rübél, T.K. Lindhorst, S. Schmidt*

11:50 COLL 533. Ethylenediamine-based betaine structure switches the neutral net charge of polyzwitterion into cationic at tumorous pH toward effective tumor accumulation of the coated nanomaterials. *H. Takemoto, A. Ranneh, T. Namoto, M. Matsui, K. Tomoda, N. Nishiyama*

SECTION G

*Boston Convention & Exhibition Center
Room 252B*

Nanomedicines: From Fundamentals to Applications Immunotherapy & Transport

Z. Gu, G. Han, Z. Wang, *Organizers*

J. Xie, J. Zheng, *Organizers, Presiding*

8:30 COLL 534. Peptide nucleic acid-lipid nanodiscs for delivery of STING agonists in the tumor microenvironment. *D.J. Irvine*

9:00 COLL 535. Nanomedicine approaches to improve cancer immunotherapy. *A.Z. Wang*

9:30 COLL 536. Immunomodulation *in vivo* through direct cytosolic delivery of siRNA to macrophages. *J. Hardie, Y. Jiang, Y. Liu, M. Ray, X. Luo, R. Das, R. Landis, M.E. Farkas, V.M. Rotello*

9:50 COLL 537. Immunostimulatory dual-functional nanocarriers that improve cancer immunotherapy. *S. Li*

10:20 COLL 538. Polymers and polymer assemblies with inherent pharmacologic activity to target chemokine networks in the treatment of metastatic cancer. *D. Oupicky*

10:50 COLL 539. Protein engineering to modulate the immunostasis mediated by the PD-1 immune checkpoint. *M. Chen, P. Zhao, S. Dong, P. Wang*

11:10 COLL 540. Bio-responsive materials for improving iron chelation therapy. *M. Xiong*

11:40 COLL 541. Surface modified nanoparticles for photodynamic therapy and X-ray induced photodynamic therapy. *J. Xie, Z. Shen, S. Zhou, H. Chen, W. Zhang*

12:10 COLL 542. Dose dependencies and biocompatibility of renal clearable gold nanoparticles: From mice to non-human primates. *J. Xu, M. Yu, C. Peng, J. Zheng*

SECTION H

*Boston Convention & Exhibition Center
Room 160A*

Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues

K. Sakurai, *Organizer*

M. A. Ilies, *Organizer, Presiding*

8:30 COLL 543. Design of lipid-protein conjugate with a self-assembling ability on a cell membrane by using microbial transglutaminase reaction. *M. Takahara, R. Wakabayashi, K. Minamihata, M. Goto, N. Kamiya*

9:00 COLL 544. Synthetic phospholipids: A versatile molecular platform to design cationic amphiphiles used for nucleic acid delivery. *P. Jaffres, M. Berchel, A. Bouraoui, O. Lozach, T.L. Gall, T. Montier*

9:30 COLL 545. Chain length and headgroup dependence of phase separation in mixed vesicles of DiA and phosphatidyl choline. *S. Bandegi, M.A. Ilies, S.L. Wunder*

10:00 Intermission.

10:15 COLL 546. Advances in peptide delivery:

Hydrophobic ion pairing in SEDDS for solubilization, protection, and enhanced delivery of oral peptides. *V. Jannin, A. Bernkop-Schnürch*

10:45 COLL 547. Highly stable, ultrasmall liposomes with stimuli-responsive drug-release capability for cancer therapy. *B. Hong, A. Iscen, G.C. Schatz, S.T. Nguyen*

11:15 COLL 548. Use of atomistic molecular dynamics simulations for *in silico* self-assembly of nanoparticles: Opportunities and limitations. *B.I. Iorga, E. Selwa*

SECTION I

Boston Convention & Exhibition Center
Room 160B

Basic Research in Colloids, Surfactants & Nanomaterials

Surfaces & Interfaces

R. Nagarajan, *Organizer*
J. Frechette, *Presiding*

8:30 COLL 549. Molecular dynamics simulations of hydrophobins near gas, oil and water interfaces.

A. Vodopivec, Y. Chen, P.S. Russo, F.R. Hung

8:50 COLL 550. High-throughput wettability screening of formulations and surfaces. *T. Kuo, A.A. Lucio, H. Wiles, B. Orvash, D. Hayes*

9:10 COLL 551. Competitive adsorption between nanoparticles and surfactants at the oil-water interface. *J. Frechette*

9:30 COLL 552. Elasticity and failure of liquid marbles: Influence of particle coating and marble volume. *A. Rendos, N. Alsharif, B.L. Kim, K. Brown*

9:50 COLL 553. Isobaric vapor-liquid phase diagrams of multicomponent systems with nanoscale interfacial curvature. *N. Shardt, J.A. Elliott*

10:10 COLL 554. Photoresponsive systems based on molecular motors. *J. Cheng, B. Feringa*

10:30 COLL 555. Spirals from drops. *S. McBride, R. Skye, S. Khan, S. Dash, K. Varanasi*

10:50 COLL 556. Molecular dynamic simulation of molecules diffusion on tracks and nanoparticles. *Y. Han, P. Kral*

11:10 COLL 557. Surface tension measurements of model and nascent sea spray aerosol particles using atomic force microscopy. *H. Lee, K.K. Ray, V.H. Grassian, A.V. Tivanski*

11:30 COLL 558. Experimental framework for understanding intermolecular interactions in carbon dioxide-water mixtures for EOR and storage. *R. Sharma, Q.K. Elias, T.S. Ramakrishnan*

11:50 COLL 559. Exploring new avenues of particle charging in apolar media. *B. Ponto, J.C. Berg*

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL³, COLL and PHYST³
Structure & Function of 2D Materials

Sponsored by ANYL, Cosponsored by COLL and PHYSS
Surface, Interface & Coating Materials

Emerging Surface & Coating Materials

Sponsored by PMSE, Cosponsored by COLL and POLY

TUESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 152

Langmuir Lectures, NanoLetters Award Lecture, ACS Materials & Interfaces Award Lecture

Cosponsored by PROF
R. Nagarajan, *Organizer*
E. Borguet, *Presiding*

2:00 Introduction of Langmuir Lecturer.

2:05 COLL 560. Directing colloid motion in nematic liquid crystals near wavy boundaries. *K.J. Stebe*

2:50 Introduction of Langmuir Lecturer.

2:55 COLL 561. Field-driven assembly, manipulation, and propulsion of dynamic structures made of particles. *O.D. Velev*

3:40 Introduction of NanoLetters Lecturer.

3:45 COLL 562. Nanostructured functional hydrogels as an emerging platform for renewable energy and environmental technologies. *G. Yu*

4:30 Introduction of AMI Lecturer.

4:35 COLL 563. Probing and understanding interfaces and interphases in electrochemical energy storage systems. *S. Meng*

Structure & Function of 2D Materials

Sponsored by ANYL, Cosponsored by COLL and PHYSS
Surface, Interface & Coating Materials

Smart & Responsive Coatings

Sponsored by PMSE, Cosponsored by COLL and POLY

WEDNESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 152

Biomaterials & Biointerfaces

V. Gordon, *Organizer*
A. P. Goodwin, *Organizer, Presiding*

8:30 COLL 564. On demand release of bacteria from microwell arrays. *A. van der Vlies, N. Barua, P. Guzman, T.G. Platt, R.R. HANSEN*

8:50 COLL 565. Degradation of protein coronas when exposed to the proteolytic environment of the pancreatic ductal adenocarcinoma cell line PANC1. *C. Rodriguez-Quijada, H. de Puig, M. Sánchez-Purrá, C. Yelleswarapu, J. Celli, K. Hamad-Schifferli*

9:10 COLL 566. Molecular identity and receptors recognition of graphene nanoflakes dispersions. *V. Castagnola, L. Boselli, M. Lo Giudice, F. Alnasser, K. Dawson*

9:30 COLL 567. Supported lipid bilayer microfluidics for gene delivery. *J.N. Belling, J.A. Jackman, L.K. Heidenreich, L.M. Kawakami, T.D. Young, L. Scarabelli, C. Zhao, N. Cho, S.J. Jonas, P.S. Weiss*

9:50 COLL 568. Layer-by-layer nanoparticles for cytokine delivery against cancer. *A. Barberio, S. Correa, E.C. Dreaden, T. Tokatlian, M. Melo, D.J. Irvine, P.T. Hammond*

10:10 Intermission.

10:30 COLL 569. Tuning non-covalent interactions for multiple cargo encapsulation inside P22 VLPs. *H. Waghwan, C. Fu, J. Johnson, T. Douglas, M. Uchida*

10:50 COLL 570. OBP fused with cell-penetrating and anchor peptides promotes liposomal transduction of 1-aminoanthracene. *F. Gonçalves, T.G. Castro, E. Nogueira, R. Pires, R. Reis, C. Silva, A. Ribeiro, A. Cavaco-Paulo*

11:10 COLL 571. Enhancement of Cas9 RNP delivery using a small molecule caged surfactant. *J. Roiese, J. Li, A. Taing, L. Chan, K. Thakker, N. Murthy*

11:30 COLL 572. Sugar-grafted cyclodextrin as drug carrier for intravesical therapy for bladder cancer. *M. Li, E. Kang, E. Chiong, K. Neoh*

SECTION B

Boston Convention & Exhibition Center
Room 153A

Toward Atomic Precision in Controlling the Low Dimensional Materials

G. Chen, R. Jin, G. Wang, *Organizers, Presiding*
8:30 Introductory Remarks.

8:35 COLL 573. Photochemical synthesis and photocatalysis with atomically precise metal clusters. *K. Stamplecaskie*

9:15 COLL 574. Catalytic hydrogenation of nitriles over atomically precise nickel clusters with a double-crown anatomy. *Y. Zhu*

9:55 COLL 575. Defect-associated adsorption of monoethanolamine on TiO₂(110) surface: From single molecules to a monolayer. *S. Sohn, S. Kim, S. Kwak, H. Shin*

10:15 Intermission.

10:45 COLL 576. Aggregation/self-assembled approach for efficient AuAg bimetallic nanocluster-based photosensitizers. *H. Kawasaki, D. Hikosou, S. Saita*

11:25 COLL 577. Addressing the isomer cataloging problem for nanoparticles in two-dimensional lattices. *A. Govind Rajan, K. Sillmore, J. Swett, D. Blankschtein, M. Strano*

11:45 COLL 578. Towards the understanding and engineering of the asymmetric electric field screening in van der Waals heterostructures. *L. Li, T. Tian, Q. Cai, C. Shih, E.J. Santos*

SECTION C

Boston Convention & Exhibition Center
Room 156C

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations

Photo- & Electro-Nanocatalysis

H. Fan, J. He, Y. Sun, *Organizers*
J. Zhao, *Presiding*

8:30 COLL 579. Self-assembly of anisotropic nanocrystals and their transformations under high pressure. *O. Chen*

9:00 COLL 580. Silicon nanowires as an effective photoelectrode for solar-driven CO₂ reduction applications. *D. Wang, W. Li, D. He, G. Li*

9:30 COLL 581. Promoting effect of Ni(OH)₂ on Pt/Pd for electrocatalytic alcohol oxidation reaction. *Y. Li*

10:00 Intermission.

10:15 COLL 582. Synthesis of hollow multimetallic nanoparticles as photo and electrochemical catalysts. *J. Zhao, S. Chen, S. Thota, Y. Wang*

10:45 COLL 583. Increasing the productivity of electrosynthesis with flow-through nanowire electrodes. *B.J. Wiley*

11:15 COLL 584. Multi-shelled metal oxides hollow materials: Synthetic chemistry and applications. *D. Wang*

11:45 COLL 585. Cu-based hybrid nanocrystals for electrochemical CO₂ conversion. *R. Buonsanti*

SECTION D

Boston Convention & Exhibition Center
Room 157A

Basic Research in Colloids, Surfactants & Nanomaterials

Surfactant Systems

R. Nagarajan, *Organizer*
Z. Niroobakhsh, *Presiding*

8:30 COLL 586. Spherical micelle transition behaviors at different composition of calix[4]arene by the electrostatic interaction. *J. Lee, S. Fujii, R. Takahashi, K. Sakurai*

8:50 COLL 587. Effect of tail terminal trimethyl silyl groups on interfacial properties and aggregation behavior of surfactants. *M. Sagisaka, K. Fujita, T. Endo, T. Narumi, A. Yoshizawa, A. Czajka, J. Eastoe*

9:10 COLL 588. Phase behavior of a stabilized surfactant/fatty acid self-assembly material. *Z. Niroobakhsh, R. Hickey, A. Belmonte*

9:30 COLL 589. Switchable photoacoustic effect due to micellization of sodium dodecyl sulfate with methylene blue. *J. Wang, C. Lin, J.V. Jokerst*

9:50 COLL 590. Magnetic surfactants as a versatile tool for functional materials design. *A. Pasac*

10:10 COLL 591. Monodispersity of the micelles composed of polyethylene glycol (PEG)-attached surfactants: Platonian micelles in conventional micelle system. *H. Matsumoto, S. Fujii, R. Takahashi, K. Sakurai*

10:30 COLL 592. Structural and rheological properties of micelles in a shear flow. *B. O. Conchuir, R.L. Anderson, M.A. Johnston*

10:50 COLL 593. Formation of ultra-uniform micelles via morphological evolution during a chemical reaction. *W.R. Lindemann, J. Tian, J. Ortony*

11:10 COLL 594. Branched pseudo-oligomeric cationic surfactant in organic media. *M.A. Walters, B. Jin, L. Vogt-Maranto, A. Velasquez*

11:30 COLL 595. Platonian micelles part 1: Monodisperse micelles in the system of reverse micelles. *S. Fujii, R. Miyake, J. Lee, R. Takahashi, K. Sakurai*

11:50 COLL 596. Platonian micelles part 2: Kinetic consideration of the micelles with the discrete aggregation numbers and mono-dispersity. *K. Sakurai, R. Takahashi, J. Lee, S. Fujii*

SECTION E

Boston Convention & Exhibition Center
Room 157B

Nanomaterials

J. A. Hollingsworth, R. Nagarajan, *Organizers*
A. Singh, *Presiding*

8:30 COLL 597. Protein-like polymers as peptide, small molecule and protein delivery agents to cells and tissues. *N.C. Gianneschi*

9:00 COLL 598. Bioelectronics communication: Encoding regulatory responses using nanostructured semiconductor thin films. *A. Ivanisevic*

9:30 COLL 599. Interfacial chemistry of biomimetic asymmetric nanochannels. *L. Wen*

10:10 COLL 600. Concentric Nd(III)-sensitized core-shell upconversion nanoparticles for excitation with a biobioenign wavelength. *C. Arboleda, S. He, A. Stubelius, N. Johnson, A. Almutairi*

10:30 COLL 601. Target-specific glucose-conjugated gold nanoclusters as fluorescent probes for quantitative analysis of glucose metabolic cleavage in glucose transporters overexpressed cancer cells. *T. Kuo, X. Pan, T. Chang, K. Chen, J. Kuo, S. Tan*

10:50 COLL 602. Eradication of multidrug-resistant bacteria by DNA-encapsulated two-dimensional transition metal dichalcogenides. *A. Debnath, S. Saha, A. Yousaf, A. Green*

11:10 COLL 603. Excellent activity of biocompatible transition metal dichalcogenide nanosheets for scavenging reactive oxygen species. *D. Yim, J. Kim, H. Kim, J. Yang, T. Kang, S. Yoo, J. Kim*

COLL

11:30 COLL 604. Identification of dynamic domains for ligand on monolayer-grafted nanoparticles and their implications for bio-interactions. *D. Hristov, H. Lopez, Y. Ortin, K. O'Sullivan, K. Hamad-Schifferli, K.A. Dawson, D. Brougham*

11:50 COLL 605. Targeting bacteria with nanoantibiotics. *M. Yan*

SECTION F

*Boston Convention & Exhibition Center
Room 157C*

Basic Research in Colloids, Surfactants & Nanomaterials

Nano-Bio Interactions

R. Nagarajan, *Organizer*

K. Burns, K. Hamad-Schifferli, *Presiding*

8:30 COLL 606. Atomistic modeling of nanoparticles nanomedicines: From protein corona to bio-activity. *P. Kral*

9:00 COLL 607. Biocompatible nanopores based on functionalized single-walled carbon nanotubes for the targeted imaging of prostate cancer cells. *F. Cortezon-Tamarit, V. Mirabella, H. Ge, S. Pasqu*

9:20 COLL 608. Polymer corona phase on single walled carbon nanotubes as an artificial molecular recognition site for real-time small therapeutic detection. *J. Dong, M. Strano*

9:40 COLL 609. Effects of surface atom coordination on protein-nanoparticle interactions. *Z. Xia, E. Villarreal, H. Wang, B. Lau*

10:00 COLL 610. Polymeric surface chemistry for quantum dot-based pH imaging. *M. Debayle, N. Lequeux, T. Pons*

10:20 COLL 611. Cellular delivery of doxorubicin mediated by disulfide reduction of a peptide-dendrimer bioconjugate. *K. Burns, J. Delehanty*

10:40 COLL 612. Flexible ultrathin graphene microstructures for 3D biosensing. *W. Xu, J. Pagaduan, Q. Huang, D.H. Gracias*

11:00 COLL 613. Ligand mediated exchange of oxidation state dependent ROS scavenging activity of cerium oxide nanoparticles. *V. Patel, A. Karakoti*

11:20 COLL 614. New method for quantifying low-energy electron emission from clinically relevant nanoparticles. *L. Cramer, B.P. Coughlin, S. Kunjachan, O. Tillement, R. Berbeco, E.H. Sykes*

11:40 COLL 615. Targeted perfluorocarbon nanoparticles for disclosing critical information of lung cancer. *L. Wu, X. Xu, J. Ping, Y. Li, K. Wang, B. Shen*

SECTION G

*Boston Convention & Exhibition Center
Room 252B*

Nanomedicines: From Fundamentals to Applications
New Formulations

Z. Gu, Z. Wang, J. Xie, *Organizers*

G. Han, J. Zheng, *Organizers, Presiding*

8:30 COLL 616. Development of a dexamethasone prodrug (ZSJ-0228) micelle formulation for effective and safe treatment of lupus nephritis. *Z. Jia, X. Wang, X. Wei, G. Zhao, K.W. Foster, F. Qiu, Y. Gao, F. Yuan, F. Yu, G.M. Thiele, T.K. Bronich, J.R. O'Dell, D. Wang*

9:00 COLL 617. Polymeric nanomedicine: Nanoproperty synchronization. *Y. Shen, Z. Zhou*

9:30 COLL 618. Biomimetic polymer-based self-assembled nanomedicine. *S. Lecommandoux*

9:50 COLL 619. Elevated levels of hydrogen peroxide in mesenchymal-like cancer cells can selectively trigger the dissolution of silver nanoparticles. *R. Singh*

10:20 COLL 620. Bio-inspired nanoparticle-based transcription factor to control stem cell fate and function. *K. Lee*

10:50 COLL 621. Formulation of dual component solid drug nanoparticles for improved oral bioavailability of Darunavir and Ritonavir. *A.C. Savage, S.J. Ashcroft, H. Box, J. Sharp, M. Neary, A. Owen, S. Rannard*

11:10 COLL 622. Structural DNA nanotechnology: Complex self-assembly and biomedical applications. *Y. Ke*

11:40 COLL 623. Dynamic topographical structure: A new parameter for designing nanomedicine. *H. Cheng, H. Zhou, Z. Fan, P.Y. Li*

12:10 COLL 624. Structurally modulated codelivery of siRNA and Argonaute 2 for enhanced RNA interference. *J. Li, C. Wu, W. Wang, Y. He, P.T. Hammond*

SECTION H

*Boston Convention & Exhibition Center
Room 160A*

Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues

M. A. Ilies, *Organizer*

K. Sakurai, *Organizer, Presiding*

8:30 COLL 625. Physicochemical properties of self-assembled cyclodextrin nanoparticles and their application in drug delivery. *T. Loftsson*

9:00 COLL 626. Combination loading of doxorubicin and resveratrol in polycaprolactone polymeric micelles. *M.C. Stefan, K. Washington, R. Kularatne, P. Soltantabar, E.J. Calubaquib, M.C. Biewer*

9:30 COLL 627. Self-assembled block copolymer micelles with tuned hydrolytic stability as efficient docetaxel delivery systems for breast cancer therapy. *U. Satyal, V.D. Sharma, H. Hensley, M.A. Ilies*

10:00 Intermission.

10:15 COLL 628. How to increase micelle loading by manipulating the preparation approach for frozen block copolymer micelles? A theoretical view. *R. Nagarajan*

10:45 COLL 629. Stabilizing colloidal drug aggregates for drug-rich nanoparticle formulations. *A. Ganesh, J. Logie, C. McLaughlin, B. Shoichet, M.S. Shoichet*

11:15 COLL 630. Rapid recovery of clofazimine nanoparticles with long-term storage stability as anti-cryptosporidium therapy. *J. Feng, Y. Zhang, S. McManus, K. Ristroph, H. Lu, K. Gong, C. White, R.K. Prudhomme*

SECTION I

*Boston Convention & Exhibition Center
Room 160B*

Surface Chemistry

Nanoparticle Surfaces & Atomic Layer Deposition

S. L. Tait, *Organizer*

Y. Chen, *Presiding*

8:30 COLL 631. NMR analysis of ligand environments on gold nanoparticles: The effect of surface curvature and ligand binding modes. *M. Wu, C.J. Murphy*

8:50 COLL 632. Dynamics and morphology of polymer-modified nanoparticle elucidated by NMR spectroscopy. *Y. Zhang, C.G. Fry, J.A. Pedersen, R.J. Hamers*

9:10 COLL 633. Optical evaluation of gold nanostars on polymer mats for uranyl detection. *H.T. Phan, A.J. Haes*

9:30 COLL 634. Light-enabled reversible self-assembly and tunable optical properties of stable hairy nanoparticles. *Y. Chen, Z. Lin*

9:50 COLL 635. Synthesis of bifunctional NHC-CO₂ adducts for SERS-based sensing on gold. *J.F. DeJesus, M.J. Trujillo, J.P. Camden, D.M. Jenkins*

10:10 Intermission.

10:30 COLL 636. Epitaxial, ultra-thin Au coating as a barrier for oxidation damages for silver nanowires. *Y. Zhu*

10:50 COLL 637. Colloidal particle assisted fabrication of self-cleaning ordered ZnO nanostructures for enhanced room temperature gas sensing by light trapping mechanism. *P. Chakrabarty, M. Banik, S. Santra, N. Gogurla, S. Ray, R. Mukherjee*

11:10 COLL 638. Small size Si precursor inhibitors for area-selective atomic layer deposition. *B. Ko, M. Khan, J. Lee, B. Shong, W. Kim, H. Lee*

11:30 COLL 639. Nanoscale structuring of surfaces by using atomic layer deposition: Controlled synthesis of nanocavities. *C. Hess, P. Ruff*

11:50 COLL 640. TiN etching in the semiconductor industry: Effects of material deposition and etch compositions. *J. Hoogboom, A. Klipp, L. Amundson*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Molecular Interactions of Synthetic Nanoparticles with Membranes

Sponsored by ANYL, Cosponsored by COLL and PHYS

Surface, Interface & Coating Materials

Functional Surface & Coatings
Sponsored by PMSE, Cosponsored by COLL and POLY

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 152*

Biomaterials & Biointerfaces

V. Gordon, *Organizer*

A. P. Goodwin, *Organizer, Presiding*

2:00 COLL 641. Probing antimicrobial peptide/lipid A membrane interactions using single-molecule dynamics. *N. Nelson, D.K. Schwartz*

2:20 COLL 642. Analysis of fluorescence recovery after photobleaching for freestanding lipid membrane over SiO₂ microwells. *A. Oshima, H. Nakashima, K. Sumitomo*

2:40 COLL 643. Towards realistic large area cell membrane mimics: Excluding oil, controlling composition and including ion channels. *P.J. Beltramo, L. Scheidegger, J. Vermant*

3:00 COLL 644. Investigating the interactions of menaquinones with common phospholipids using Langmuir monolayers. *B.J. Peters, C. Van Cleave, A. Haase, J.T. Koehn, K. Werst, D. Crick, D.C. Crans*

3:20 COLL 645. Controlling receptor recycling using engineered ligands. *A. Trementozzi, A.C. DeGroot, C. Zhao, J. Stachowiak*

3:40 Intermission.

4:00 COLL 646. Neutron reflectometry reveals structural aspects of blood protein and antibody adsorption to polymer brushes. *V.M. Latza, I. Rodriguez Loureiro, I. Kiesel, A. Halperin, G. Fragneto, E. Schneck*

4:20 COLL 647. Label-free direct visualization of multivalent binding of cartilage oligomeric matrix protein and bone morphogenetic protein-2. *V. Tran, A. Karsai, M. Fong, Q. Yang, J. Yik, D. Haudenschild, G. Liu*

4:40 COLL 648. Single molecule level studies of enzyme-ligand interactions using molecular recognition atomic force spectroscopy. *T.I. Lansakara, H. Morris, P. Singh, A. Kohen, A.V. Tivanski*

5:00 COLL 649. Surface-enhanced Raman spectroscopy of fluid supported lipid bilayers on silica-coated silver film over nanosphere structures. *I. Bruzas, L. Sagle*

5:20 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 153A*

Toward Atomic Precision in Controlling the Low Dimensional Materials

G. Chen, R. Jin, G. Wang, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 COLL 650. Near infrared electrochemiluminescence of Au nanoclusters: Solution sensing and surface assays. *G. Wang, T. Wang, H. Ma, S. Chen*

2:45 COLL 651. Luminescent group IB alloy metal nanoclusters with atomic precision. *H. Yu, M. Zhu*

3:25 Intermission.

3:55 COLL 652. Single molecule conductance of ferrocene on gold. *M. Kamenetska*

4:15 COLL 653. Discovery of biomaterials by simulation and experiment: Molecular recognition, assembly, applications. *H. Heinz*

4:45 COLL 654. Controlled dopant speciation of dopants in CdS-based nanoclusters. *K.R. Kittilstved*

SECTION C

*Boston Convention & Exhibition Center
Room 156C*

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations

Characterization of Nanocatalysts

H. Fan, J. He, Y. Sun, *Organizers*

O. Chen, *Presiding*

2:00 COLL 655. Probing phase evolution of metal oxide nanomaterials in batteries. *D. Su*

2:30 COLL 656. Nano catalyst with enhanced activity and stability. *T. Li*

3:00 COLL 657. Watching single nanocrystal transformations with fluorescence microscopy. *B. Sadtler, B. Yin*

3:30 Intermission.

3:45 COLL 658. Partially poisoned Pd nanoparticles for selective hydrogenation and/or isomerization of olefins. *M. Mahdaly, K.M. Vargas, Y. Shan*

4:15 COLL 659. *In-situ* visualization of plasmon-induced hydrogenation reactions in individual palladium nanocubes. *M. Vadai, D.K. Angell, F. Hayee, K. Szytu, A. Dionne*

4:35 COLL 660. Superiorly active and selective Au nanocatalysts supported on nitrated carbon for electrocatalytic CO₂ reduction. *L. Jin, B. Liu, P. Wang, H. Yao, L. Achola, P. Kerns, A. Lopes, Y. Yang, J. Ho, A. Moewes, Y. Pei, J. He*

4:55 COLL 661. Plasmonic photocatalytic silver nanoparticles for hydrogenation and oxidation reactions. *A. Gelle, M. Landry, A.H. Moores*

5:15 COLL 662. Colloidal synthesis of noble metal nanostructures with unusual crystal phase. *Y. Chen, Z. Fan, H. Zhang*

SECTION D

*Boston Convention & Exhibition Center
Room 157A*

Basic Research in Colloids, Surfactants & Nanomaterials

Lipids, Peptides & Proteins

R. Nagarajan, *Organizer*
T. Wei, *Presiding*

2:00 COLL 663. Equilibrium and transport distributions of DNA in hydrophilic nanotubes. *F. Cruz, J. Mata*

2:20 COLL 664. Understanding and characterizing lipid bilayer dynamics by vibrational sum frequency generation spectroscopy. *A. Chowdhury, F. Liu, M. Phan, F. Heberle, J. Katsaras, C.P. Collier, Y. Ma, B. Doughty*

2:40 COLL 665. Peptide-grafted gold nanoparticles studied with ReaxFF MD simulations. *T. Wei*

3:00 COLL 666. Bovine serum albumin protein surface properties in the presence of polymers or surfactants. *A. Erfani, S. Khosharay, N.H. Flynn, J.D. Ramsey, C. Aichele*

3:20 COLL 667. Adsorption orientation of amyloidogenic peptides over nano-gold colloidal particles' surfaces. *K. Yokoyama*

3:40 COLL 668. Ionic strength-mediated phase transitions of surface-adsorbed DNA on single-walled carbon nanotubes. *D. Salem, X. Gong, A. Liu, V. Koman, J. Dong, M. Strano*

4:00 COLL 669. Flavin self-assemblies towards chiral enrichment of single-walled carbon nanotubes. *E. Karunaratne, M. Mollahosseini, F. Papadimitrakopoulos*

4:20 COLL 670. Effects of β -sitosteryl sulfate on the phase behavior and hydration properties of phospholipids. *H. Sakai, K. Ananda, M. Akamatsu, K. Sakai, C. Kaise, T. Kaneko*

4:40 COLL 671. Direct measurement of metal ion binding to ionophores in lipid bilayers by affinity chromatography. *E.E. Ross*

5:00 COLL 672. Entropy-driven self-assembly of protein 2D liquid crystal at solid-liquid interface. *S. Zhang, H. Pyles, D. Baker, J.J. DeYoreo*

5:20 COLL 673. Mechanistic investigation of methylene blue and heparin interaction in phosphate buffer saline. *J. Wang, K. Humphries, B. Miller, J.V. Jokerst*

SECTION E

*Boston Convention & Exhibition Center
Room 157B*

Nanomaterials

J. A. Hollingsworth, R. Nagarajan, *Organizers*
A. Ivanisevic, *Presiding*

2:00 COLL 674. Dendritic effect and magnetic permeability in dendronized magnetic nanoparticles. *J.D. Lee, D. Jishkariani, H. Yun, T. Paik, J.M. Kikkawa, C.R. Kagan, B. Donnio, C.B. Murray*

2:20 COLL 675. Ligand-mediated near-infrared photoluminescence of small diameter copper, silver, and gold nanoparticles. *S. Crawford, C.M. Andolina, A. Smith, K. Johnston, L. Marbella, P. Straney, J. Millstone*

2:40 COLL 676. NHC-capped polymers for surface functionalization of metal nanoparticles in aqueous solution. *S. Thanneeru, K. Ayers, M. Anuganti, L. Jin, L. Zhang, G. Ung, J. He*

3:00 COLL 677. Surface modification of carbon-based material with terminal alkene ligands using radical coupling reactions. *Y. Zhang, R.J. Hamers*

3:20 COLL 678. Chiro-magnetic nanoparticles and gels. *J. Yeom, U. Santos, M. Chekini, M. Cha, A. de Moura, N. Kotov*

3:40 COLL 679. Setting carriers free - healing faulty interfaces promotes delocalization and transport in nanocrystal solids. *W. Walravens, N. Mahmoud, F. Geenen, E. Solano, J. Dendooven, A. Tadjine, C. Delerue, G. Roelkens, C. Detavernier, Z. Hens*

4:00 COLL 680. Wavefunction engineering in CdSe/PbS core/shell heterostructures. *B.M. Wieliczka, W.E. Buhro, R.A. Loomis*

4:20 COLL 681. Colloidal synthesis and photophysical characterization of SiGeSn alloy quantum dots. *E. Eladgham, U. Ozgur, D.O. Demchenko, I.U. Arachchige*

4:40 COLL 682. Synthesis of quaternary Cu-Zn-In-S nanocrystals and photovoltaic characteristics. *R.D. Rajapaksha, M.I. Ranasinghe*

5:00 COLL 683. Kinetically controlled aggregation and growth, a pathway for synthesis simple-branched to hyperbranched NCs. *M. Yazdanparast*

5:20 COLL 684. Autonomous thermal-oxidative composition inversion (TOCI) and texture tuning in liquid metal particles. *J. Cutinho, B.S. Chang, I.D. Tevis, M.M. Thuo*

SECTION F

*Boston Convention & Exhibition Center
Room 157C*

Basic Research in Colloids, Surfactants & Nanomaterials

Nano-Bio Interactions

R. Nagarajan, *Organizer*
T. Pons, *Presiding*

2:00 COLL 685. MnO₂ and MoS₂ nano-knives exhibit antibacterial properties. *F. Alimohammadi, M. Sharifian Gh., N.H. Attanayake, A. Thenuwara, Y. Gogotsi, B. Anasori, D.R. Strongin*

2:20 COLL 686. Time-gated fluorescence imaging and sensing using long lifetime near infrared quantum dots. *M. Debayle, N. Lequeux, V. Loriette, A. Fragola, T. Pons*

2:40 COLL 687. Glycosylated gold nanoparticle biosensors: Detection of toxins, bacteria and viruses. *S. Richards, M.I. Gibson*

3:00 COLL 688. Gold nanoparticle radiosensitization of synchronized cell populations. *B.P. Coughlin, P.T. Lawrence, E.H. Sykes, C. Mace*

3:20 COLL 689. Engineered nanozymes to catalyze site-specific bioorthogonal reactions for imaging and therapeutic applications. *R. Das, A. Gupta, G.Y. Tonga, R.F. Landis, T. Mizuhara, V.M. Rotello*

3:40 COLL 690. Electric field sensitive upconverting nanoparticles: Toward background free *in vivo* action potential imaging. *R. Mehlenbacher, C. Siefe, A. Lay, J.A. Dionne*

4:00 COLL 691. Gold nanoparticle-polyplex electroporation in the enhancement of nucleic acid delivery. *S. Huang, X. Liu, S. Wang*

4:20 COLL 692. High content analysis (HCA) of nanoparticle uptake by mammalian cells and their effects on motility, proliferation and viability. *A. Pallaoro, W.H. Dragowska, B.D. Gates, D.T. Yapp*

4:40 COLL 693. UV-visible spectroscopy-based quantification of biomolecules bound to nanoparticles. *B.L. Baldock, J.E. Hutchison*

5:00 COLL 694. Understanding the interfacial events of stimuli responsive nanomaterials for the treatment of bacterial infection. *D. Bagchi, S. Pal*

5:20 COLL 695. Biodegradable nanocomposite antimicrobials for the eradication of multidrug-resistant bacterial biofilms without accumulated resistance. *C. Li, R. Landis, A. Gupta, Y. Lee, J.M. Makabenta, M. Yazdani, N. Ngernyuan, I. Altinbasak, S. Mansoor, M. Khichi, A. Sanyal, V.M. Rotello*

SECTION G

*Boston Convention & Exhibition Center
Room 252B*

Nanomedicines: From Fundamentals to Applications

Design Considerations

Z. Gu, Z. Wang, J. Xie, *Organizers*
G. Han, J. Zheng, *Organizers, Presiding*

2:00 COLL 696. Development of targeted nanomedicines via machine learning processes. *D.A. Heller, Y. Shamay, J. Shah, M. Isik, J. Budhathoki-Uprety, D. Roxbury, R. Sridharan, J.D. Chodera, S.W. Lowe*

2:30 COLL 697. Genetically encoded acousto-magnetic protein nanostructures for non-invasive imaging of cellular functions. *G.J. Lu, A. Farhadi, J.O. Szabowski, A. Lee-Gosselin, S.R. Barnes, A. Lakshmanan, R.W. Bourdeau, M.G. Shapiro*

3:00 COLL 698. Photothermal intracellular delivery using large-area Au nanodisk arrays fabricated by chemical lift-off lithography. *C. Zhao, T. Man, X. Xu, Q. Yang, W. Liu, S.J. Jonas, M.A. Teitell, A.M. Andrews, P. Chiou, P.S. Weiss*

3:20 COLL 699. Rapid sequential *in situ* multiplexing with DNA exchange imaging. *P.L. Yin*

3:50 COLL 700. Small platform enables big change - Nanotech-assisted discovery of novel biomarkers for disease diagnosis. *T. Hu*

4:20 COLL 701. Cartilage penetrating nanocarriers enhance drug delivery and efficacy in osteoarthritis. *B. Geiger, S. Wang, R.F. Padera, A. Grodzinsky, P.T. Hammond*

4:40 COLL 702. Magnetothermal neuromodulation in awake, freely moving animals. *R. Munshi, S. Qadri, I. Castellanos-Rubio, A. Pralle*

5:10 COLL 703. Tuning the scaffolding bionanofiber's structure and surface for electrochemically sensing cancer and normal cells. *Z.R. Tian, H. Alismail, Y. Du, J. Zhou, J. Koster, P. Cole, L. Mantoath*

5:30 COLL 704. Design of quantum dot-protein bioconjugates for extracellular control of intracellular drug release. *L.D. Field, S. Walper, K. Susumu, G. Lasarte-Aragones, E. Oh, I. Medintz, J. Delehanty*

SECTION H

*Boston Convention & Exhibition Center
Room 160A*

Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues

K. Sakurai, *Organizer*

M. A. Ilies, *Organizer, Presiding*

2:00 COLL 705. Functionalized thin shell microcapsule for targeted delivery and release. *L. Zhang, J. Didier, H. Wang, D.A. Weitz*

2:30 COLL 706. Encapsulation, protection and programmed release of retinol from silicone particles for topical applications. *W. Shields, J.P. White, E.G. Osta, J. Patel, S. Rajkumar, S. Zauscher*

3:00 COLL 707. Specific targeting of ovarian tumor associated macrophages by large, anionic nanoparticles. *J.M. Berlin*

3:30 Intermission.

3:45 COLL 708. Ligand design, synthesis and formulation for gold nanoparticle stabilization, targeting, drug loading and controlled release: towards new multi-ligand targeted nanoplatfoms for doxorubicin delivery. *U.K. Mondal, A. Shabana, M.R. Alam, T. Spoon, C.A. Ross, M. Muniswamy, C.T. Supuran, M.A. Ilies*

4:15 COLL 709. Integration of inorganic nanomaterials within biological systems using a coordinating polymer coating. *L. Du, W. Wang, Z. Jin, H.M. Mattoussi*

4:45 COLL 710. Self-assembled fluorinated quantum dots as a novel delivery platform for enzymes. *C. Carrillo Carrion, M. Carril, W. Parak*

SECTION I

*Boston Convention & Exhibition Center
Room 160B*

Surface Chemistry

Self-Assembled Monolayers & Films

S. L. Tait, *Organizer*

M. S. Minkara, L. Xiang, *Presiding*

2:00 COLL 711. Preparation and quantification of various degrees of hydrophobic glass surfaces. *S. Pradhan, P.K. Bikina*

2:20 COLL 712. Optical characterization of surface adlayers and their compositional demixing at the nanoscale. *L. Xiang, M. Wojcik, S. Kenny, R. Yan, S. Moon, W. Li, K. Xu*

2:40 COLL 713. Development of a self-assembled monolayer that is cleavable under mild conditions for surface-grafted conjugated polymers. *P.M. Lundin*

3:00 COLL 714. Chain-length dependent reactivity of thiolate self-assembled monolayers with atomic gas species. *S. Brown, J. Sayler, S. Sibener*

3:20 COLL 715. Probing curvature effects of surfactant adsorbing onto liquid/vapor interfaces of water using Monte Carlo simulations. *M.S. Minkara, C.L. Venteicher, J.L. Chen, B. Xue, J.I. Siepmann*

3:40 Intermission.

4:00 COLL 716. Electrochemistry and viscoelasticity of DNA self-assembled monolayers conjugated with hexamine metal(III) complexes: Effects of H/D isotope exchange. *G. Flechsig, S.K. Galagedera*

4:20 COLL 717. Antioxidant hydrogen-bonded films of synthetic polyphenol polymers. *R. Hlushko, S.A. Sukhishvili*

4:40 COLL 718. Influence of molecular weight on assembly and surface properties of polyelectrolyte multilayers. *E. Towle, I. Ding, A.M. Peterson*

5:00 COLL 719. Electrochemically triggered surface deposition of polyelectrolytes. *M. Iqbal, W. Zhan*

5:20 COLL 720. Hybrid glasses coatings obtained by electrospray deposition. *L. Lei, M. Tenorio, K. AH-Marzoki, J. Guzman, L. Klein, A. Pelegri, J.P. Singer, A. Jitianu*

COLL/COMP

Functional Materials from Biopolymer Self-Assembly & Self-Organization

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Molecular Interactions of Synthetic Nanoparticles with Membranes

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Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation

Spectroscopy Analysis

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THURSDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 104B

Basic Research in Colloids, Surfactants & Nanomaterials

Colloidal Systems

R. Nagarajan, *Organizer*
K. Sason, *Presiding*

8:30 COLL 721. High yield synthesis of semiconductor helices through self-assembly of CdTe nanoparticles. *J. Yan, J. Kim, W. Feng, N. Kotov*

8:50 COLL 722. Universal fluorescence enhancement substrate based on multiple heterostructure colloidal photonic crystal with super-wide stopband and highly sensitive Cr(VI) detecting performance. *L. Zhang*

9:10 COLL 723. Structural synergy of shell conformation in p-n heterostructured water-processable semiconducting colloids for ultra-fast and long-term quenching efficiency. *Y. Kim*

9:30 COLL 724. Dual self-assembly of chiro-magnetic cobalt-based supraparticles with rice-like structure. *Z. Mu, N. Kotov*

9:50 COLL 725. Adsorption of rhamnolipid biosurfactant and its effect on the aggregation kinetics of iron oxide (Fe₃O₄) nanoparticles in monovalent and divalent electrolyte solutions. *A. Ghosh, N. Sharma, W. Li, J. Fortner*

10:10 COLL 726. Developing 3D-printed optical glasses from sol-gel feedstocks. *K. Sasan, J.F. Destina, N. Dudukovic, M.A. Johnson, D.T. Nguyen, T.D. Yee, L.L. Wong, A. Lange, T.M. Fears, P. Ehrmann, R. Dylla-Spears*

10:30 COLL 727. Study of the phase state and viscoelastic properties of individual substrate deposited model aerosol systems by atomic force microscopy force spectroscopy. *K.K. Ray, H. Lee, A.V. Tivanski*

10:50 COLL 728. Determination of zeta potential in high ionic strength aqueous colloidal dispersions using next generation electrophoretic light scattering (NG-ELS). *J. Miller*

11:10 COLL 729. Characterization of fluorocarbon surfactant solutions for understanding fire suppression enhancement with solvent incorporation. *S.L. Giles, A. Snow, K.M. Hinnant, R. Ananth*

11:30 COLL 730. Spectroscopic investigations of AuxPdy bimetallic nanoparticles supported on TiO₂. *X. Yu, A. Nefedov, C. Woell, Y. Wang*

11:50 COLL 731. Layer-by-layer self-assembly of amphiphilic quaternary ammonium chitosans/sodium alginate as a biocompatible anti-biofouling coating. *J. Jung, Y. Sun*

12:10 COLL 732. Synthesis and characterisation of silicon germanium oxide (Si_{0.2}Ge_{0.3}O₂) nanoparticles via liquid mix and sol-gel techniques. *G.B. Teh, T. Lim, S. Ganesan, R.D. Tilley*

SECTION B

Boston Convention & Exhibition Center
Room 258A

Toward Atomic Precision in Controlling the Low Dimensional Materials

G. Chen, R. Jin, G. Wang, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 COLL 733. Selective distribution of HOMO-LUMO in gold nanoclusters. *Z. Wu*

9:15 COLL 734. Understanding and prediction of the structures of ligand-protected gold nanoclusters using electron counting rule. *Y. Gao, W. Xu, X.C. Zeng*

9:55 COLL 735. Modulating the hierarchical fibrous assembly of Au nanoparticles with atomic precision. *Q. Li, R. Jin*

10:15 Intermission.

10:45 COLL 736. Kinetic control of the seed-mediated growth of gold nanorods. *G. Chen, R. Gallagher, X. Zhang*

11:25 COLL 737. Hierarchical nanostructures through prescribed structural symmetry breaking. *T.J. Kempa, B. Stephens, A. Kossak, M. Sliwa, T. Chowdhury*

11:45 COLL 738. DNA-templated silver clusters. *J.T. Petty, D. Chevrier, P. Zhang, T. Yeh, R. Dickson*

SECTION C

Boston Convention & Exhibition Center
Room 257B

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations

Nanocatalyst-Mediated Reactions

H. Fan, J. He, Y. Sun, *Organizers*
L. Jin, *Presiding*

8:30 COLL 739. Synthesis of hierarchical 4H/fcc Ru nanostructures for highly efficient hydrogen evolution in alkaline media. *Q. Yun, Q. Lu, A. Wang, H. Zhang*

8:50 COLL 740. Single-walled carbon nanotube mediated *in situ* electrochemistry. *A.T. Liu, Y. Kunai, A. Cottrill, M. Strano*

9:10 COLL 741. *In-situ* observation of plasmon-driven hydrogenation reactions within Au@Pd core-shell nanoparticles. *K. Sytwa, M. Vadai, F. Hayee, A. Koh, R. Sinclair, J.A. Dionne*

9:30 COLL 742. Investigations of plasmonic enhancement for small molecule oxidation using gold nanoparticle decorated semiconductor heterostructures. *J. Boltersdorf, G. Forcherio, J. McClure, D. Baker, A. Leff, C.A. Lundgren*

9:50 Intermission.

10:05 COLL 743. Solvent mixing to induce aggregation: Applications to control molecular motor behavior. *Y. Wei, B. Feringa*

10:25 COLL 744. Molecular dynamics simulations of peptide conformations and interactions with gold nanoparticles. *P. Rehak*

10:45 COLL 745. Plasmonic hot-carriers mediated tunable photochemical reactions: A non-adiabatic molecular dynamics study of H₂ splitting. *Y. Zhang, S. Tretiak, T. Nelson, H. Guo, G.C. Schatz*

SECTION D

Boston Convention & Exhibition Center
Room 259A

Basic Research in Colloids, Surfactants & Nanomaterials

Polymers & Gels

R. Nagarajan, *Organizer*
P. D'Angelo, *Presiding*

8:30 COLL 746. Engineering the shape of non-crosslinked poly(styrene) particles. *M. Liu, X. Zheng, F. Dong, M.D. Ward, M. Weck*

8:50 COLL 747. Structure-property relationship in particle brush materials. *J. Lee, Z. Wang, T. Deng, R. Davis, K. Matyjaszewski, M.R. Bockstaller*

9:10 COLL 748. Improvement of personal thermal management by electrically conductive silver nanowire-hydrogel textile coatings. *P. D'Angelo, E.S. Hirst, J. Lum*

9:30 COLL 749. Synthesis of functional particles by condensation and polymerization of monomer droplets in silicone oils. *P. Karandikar, M. Gupta*

9:50 COLL 750. Revisiting the colloidal fundamentals of water-dispersible polyesters: Interactions and self-assembly of polymer nanoaggregates in water. *S. Islam, O.D. Velez*

10:10 COLL 751. Green synthesis of polyrhodanine microspheres and its application for the adsorption of organic dye. *M. Chauhan, A. Gaba, Y. Saleh, Q.R. Johnson, G. Longja, B.P. Chauhan*

10:30 COLL 752. Soft-templating of ultra-large pores using block bottlebrush copolymer via a cooperative assembly approach. *X. Xia, G. Bass, M. Becker, B.D. Vogt*

10:50 COLL 753. Elucidating the effects of metal-complexation on morphological and rheological properties of polymer solutions by a dissipative particle dynamics model. *A. Vishnyakov, S. Kolattukudy Poulouse, A.V. Neimark*

11:10 COLL 754. Impact of amine rich polyelectrolyte coating chain length on AuNP-Liposome interaction. *Z. Zheng, Z. Rosenzweig*

11:30 COLL 755. Comparison of structure-property relationship of molecular gels prepared from simply structured alkanolic acid derivatives as efficient ambidextrous gelators. *A.V. Mallia, K. Galinat, C. Dill*

11:50 COLL 756. Dynamics and mechanism of polyelectrolyte-neutral block copolymer micellization in aqueous solution by explicit atomistic MD simulations. *R. Chockalingam, U. Natarajan*

SECTION E

Boston Convention & Exhibition Center
Room 259B

Nanomaterials

J. A. Hollingsworth, R. Nagarajan, *Organizers*
J. Wang, *Presiding*

8:30 COLL 757. Layer-by-layer growth of DNA-functionalized nanoparticle thin films with tailored surface architectures. *D. Lewis, P. Gabrys, R. Macfarlane*

8:50 COLL 758. Self assembly of polymer coated Au nanocrystals with controlled polymer grafting density. *H. Yun, Y. Lee, J. Kim, J. Han, G. Stein, B. Kim*

9:10 COLL 759. Multiscale modeling of DNA-wrapped carbon nanotube nanosensors. *L. Vukovic, A. Alizadehmojarad*

9:30 COLL 760. Hybrid conjugated oligomer/polymer-metal nanoparticles. *D. Tuncel*

9:50 COLL 761. Directed organization of giant quantum dots (gQDs) during polymerization of ionic liquid (IL) crystalline mesophases. *A. Joshi, H. Magurudeniya, C.J. Hanson, J.A. Hollingsworth, M.A. Firestone*

10:10 COLL 762. Open circuit chemical corrosion drives porosity evolution of 3D bicontinuous nanoporous precious metal structures. *In situ* and real time kinetic study via synchrotron small angle X-ray scattering. *A.A. Farghaly, M.M. Collins, B. Lee, S. Seifert, K. Suthar*

10:50 COLL 763. "Soft" epitaxy in DNA-nanoparticle thin films. *P. Gabrys, R. Macfarlane*

11:10 COLL 764. Influence of chain architecture on transport properties in polyelectrolyte functionalized mesopores. *R. Brilmayer, A. Andrieu-Brunsen*

11:30 COLL 765. Building up AuPd@m-SiO₂ nanocatalyst with alloyed noble metal core and mesoporous silica shell structure: Designed composite for enhanced p-chloronitrobenzene hydrogenation selectivity. *H. Yin, S. Zhou, G. Yang*

SECTION F

Boston Convention & Exhibition Center
Room 105

Basic Research in Colloids, Surfactants & Nanomaterials

Nano-Bio Interactions

R. Nagarajan, *Organizer*
L. Boselli, *Presiding*

8:30 COLL 766. Synergistic antimicrobial therapy using nanoparticles and antibiotics for the treatment of multidrug-resistant bacterial infection. *A. Gupta, N.M. Saleh, R. Das, R.F. Landis, A. Bigdeli, M. Mahmoudi, V.M. Rotello*

8:50 COLL 767. Interactions between gold nanoparticles and lipid membranes: The effect of the liquid flow. *C. Molinaro, F. Cecchet*

9:10 COLL 768. Bionano interactions of ultrasmall nanoparticles: What the cell sees in this size regime. *L. Boselli, E. Polo, V. Castagnola, F. Muraca, K. Dawson*

9:30 COLL 769. Modifying the interactions between semiconductor quantum dots and bacterial targets. *D.N. Williams, Z. Zheng, S. Pramanik, C.L. Haynes, Z. Rosenzweig*

9:50 COLL 770. Elucidating biomolecular corona role for nanoparticle interactions. *E. Polo*

10:10 COLL 771. β -amyloid detection in an animal model of Alzheimer's disease using glyco-nanoparticle. *S. HossainiNasr*

10:30 COLL 772. Small-angle scattering of interpenetrating polymer networks (IPNs) as medical devices with reduced risk of infection. *G. Smith, E. Brook, M. Schmiele, L. Arleth, K. Mortensen, M. Alm, P. Thomsen*

10:50 COLL 773. Correlating structural and functional heterogeneity of immobilized enzymes. *D.F. Kienle, R. Falatach, J. Kaar, D.K. Schwartz*

11:10 COLL 774. Self-assembly of nanoparticle-protein superstructures for the direct cytosolic protein delivery to lymphoma B cells. *Y. Liu, X. Zhang, M. Ray, D. Luther, V.M. Rotello*

11:30 COLL 775. Layer-by-layer nanoparticles for the detection and treatment of ovarian cancer. *N. Boehnke, S. Correa, L. Hao, W. Wang, S. Bhatia, P.T. Hammond*

11:50 COLL 776. Screening for canine transitional cell carcinoma (TCC) by SERS-based quantitative urine cytology. *A. Pallaoro, R.Y. Mirsafavi, W.T. Culp, G.B. Braun, C.D. Meinhart, M. Moskovits*

SECTION G

Boston Convention & Exhibition Center
Room 252B

Nanomedicines: From Fundamentals to Applications**Young Scientists & the Future**

Z. Gu, Z. Wang, J. Xie, J. Zheng, *Organizers*
G. Han, *Organizer, Presiding*
M. Yu, *Presiding*

8:30 COLL 777. Physiological stability and renal clearance of ultrasmall zwitterionic gold nanoparticles: Ligand length matters. *X. Ning*

8:50 COLL 778. Reinforcement of polymeric nanoassemblies for ultra-high drug loadings, modulation of stiffness and release kinetics, and sustained therapeutic efficacy. *I. Ekladios, R. Liu, N. Varongchayakul, L.A. Mejia Cruz, D. Todd, H. Zhang, N.H. Oberlies, R.F. Padera, Y.L. Colson, M.W. Grinstaff*

9:10 COLL 779. Co-aggregation of multiple drugs for chemotherapeutic delivery. *E. Donders, A.N. Ganesh, B. Shoichet, M.S. Shoichet*

9:30 COLL 780. Cationized albumin carrier for potential synergistic chemotherapy of non-muscle-invasive bladder cancer. *S. Lu, J. Rahmat, R. Mahendran, E. Kang, E. Chiong, K. Neoh*

9:50 COLL 781. Sequential co-delivery of EGFR inhibitor and doxorubicin for targeted combination chemotherapy. *J. Lee, Z. Zhou, M. Jafari, V. Sriram*

10:10 COLL 782. Highly engineered platinum nanoparticles as multifunctional active nanocarriers integrating the function of high-performance antioxidant drugs. *M. Moglianetti*

10:30 COLL 783. Fast releasing oral formulation of clofazimine nanoparticles prepared via flash nanoprecipitation as anti-cryptosporidiosis therapeutics. *Y. Zhang, J. Feng, S. McManus, K. Ristorph, R.K. Prudhomme*

10:50 COLL 784. Solid drug nanoparticles synthesised using spontaneous nanoprecipitation of tenofovir disoproxil fumarate: From proof of concept to *in vivo* pharmacokinetics of improved oral dosage. *J.J. Hobson, P. Curley, A. Al-khouja, M. Siccardi, C. Flexner, C.L. Meyers, A. Owen, S. Rannard*

11:10 COLL 785. Polymersomes based on temperature-sensitive poly(N-vinylcaprolactam) for anticancer therapy. *V.A. Kozlovskaya, A. Alford, E.P. Kharlampieva*

11:30 COLL 786. Hybrid viral/nonviral gene carriers for molecularly targeted, versatile cancer therapy. *M. Lugin, K. Kelada, A. Fleischman, Y.J. Kwon*

11:50 COLL 787. Cellulose-based photonic nanomaterials for biomedical imaging. *B. Peng, M. Almegdadi, F. Laroche, S. Palantavida, S. Peerzade, M. Dokukin, J. Roper, H. Feng, I. Sokolov*

12:10 COLL 788. Biodegradable periodic shRNA systems for enhanced gene silencing. *C. Wu, J. Li, W. Wang, P.T. Hammond*

SECTION H

Boston Convention & Exhibition Center
Room 160A

Synthetic Self-Assembled Systems for Drug & Nucleic Acid Delivery: New Materials, Formulation Strategies, Targeting, Toxicity & Regulatory Issues

M. A. Ilies, *Organizer*
K. Sakurai, *Organizer, Presiding*

8:30 COLL 789. Size characterization of micelles and microemulsions by Taylor dispersion analysis. *V. Jannin, H. Cottet*

9:00 COLL 790. Polymeric micelles for therapeutic delivery of hydrogen sulfide. *U. Hasegawa, A. van der Vlies, J.J. Chen*

9:30 COLL 791. Complexation loading of antimicrobial peptides into microgel-modified surfaces. *J. Liang, M. Libera*

10:00 Intermission.

10:15 COLL 792. Novel, self-assembled PLGA-PEG-PLGA nanogels, utilizing multiple non-covalent interactions for the extended and controlled release of nucleic acid conjugates to treat secondary cataracts. *L.L. Osorno, R. Getts, M. George-Weinstein, M. Byrne*

10:45 COLL 793. Yeast β -glucan functionalized graphene oxide for targeted delivery of CpG ODNs and enhanced cancer immunotherapy. *H. Zhang, J. Chen*

11:15 COLL 794. Time-lapse live cell imaging to monitor doxorubicin release from DNA origami nanostructures. *R. Wang, Y. Zeng, J. Liu, S. Yang, W. Liu, L. Xu*

SECTION I

Boston Convention & Exhibition Center
Room 156A

Surface Chemistry**Non-Metal Surface Chemistry**

S. L. Tait, *Organizer*
A. Holm, C. E. Mohler, *Presiding*

8:30 COLL 795. Ultra-violet photoelectron spectroscopy studies on HOPG exfoliations in ambient air and ultra-high vacuum. *M. Salim, M. Montgomery, H. Liu*

8:50 COLL 796. Inverse electron demand Diels-Alder reaction for surface modification of sp^2 hybridized carbon nanomaterials. *J. Zhu, R. Lennox*

9:10 COLL 797. Applying imaging XPS towards understanding surface phenomena of 2D-like and nano-material structures. *J.M. Gorham, W.A. Osborn, J. Woodcock, K.C. Scott, J.M. Heddeleston, A.R. High Walker, J. Gilman, F. DelRio, M.R. Amer, A. Alrasheed, S.A. Alodan, K. Chung*

9:30 COLL 798. Langmuir-Blodgett deposition of graphene oxide—identifying Marangoni flow as a process that fundamentally limits deposition control. *A. Holm, C.J. Wrasman, A.R. Riscoe, M. Cargnello, C.W. Frank*

9:50 Intermission.

10:10 COLL 799. Surface complexation modeling of calcite zeta potential in mixed brines with varied ionic strength for carbonate wettability characterization. *J. Song, Y. Zeng, X. Duan, M. Puerto, G.J. Hirasaki, S.L. Biswal*

10:30 COLL 800. Molecular and dissociative adsorption of DMMP, Sarin and Soman on dry and wet $TiO_2(110)$ using density functional theory. *Y.P. Cardona-Quintero, R. Nagarajan*

10:50 COLL 801. Adsorption of high molecular weight polymers on clay surfaces. *C.E. Mohler, M. Poindexter, G. Meyers, C. Reinhardt, A.I. Nakatani*

11:10 COLL 802. Vibrational SFG of thermally treated clay minerals. *A.E. Nessler, A. Montenegro, E. Howard, M. Mammetskulyev, B.C. Melot, A.V. Benderskii*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation**Nanomaterials & Safe Evaluation**

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Surface, Interface & Coating Materials**New Developments in Coating Industry**

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COMP**Division of Computers in Chemistry**

H. Woodcock, J. Shen and M. Feig,
Program Chairs

SUNDAY MORNING**SECTION A**

Westin Boston Waterfront
Adams

Material Science

C. M. Aikens, *Organizer*
M. Pardakhti, *Presiding*

8:30 COMP 1. Extended Hückel calculations on solids using the Avogadro molecular editor and visualizer. *P. Avery, H. Ludowieg, J. Autschbach, E. Zurek*

8:55 COMP 2. Unusual electronic properties of phosphorene and template-directed porphyrin nanotubes: New insights from large-scale DFT calculations. *B.M. Wong, S.I. Allec, N.V. Ilave*

9:20 COMP 3. Semiempirical modeling of plasmonic Ag nanostructures and the chemical mechanism in surface-enhanced Raman scattering. *R. Giesecking, M.A. Ratner, G.C. Schatz*

9:45 COMP 4. Real-time simulation of photoinduced molecular spin-plasmon dynamics. *C.T. Chapman*

10:10 Intermission.

10:30 COMP 5. Auger recombination in CdSe nanocrystals: Excitonic effects and non-volume scaling in nanorods. *J.P. Philbin, E. Rabani*

10:55 COMP 6. Development of geminal-screened electron-hole interaction kernel method for calculation of excitonic properties in colloidal quantum dots. *P. McLaughlin, J. Scher, M. Bayne, A. Chakraborty*

11:20 COMP 7. Boost small polaron transport in transition metal oxides by atomic doping. *Y. Ping*

SECTION B

Westin Boston Waterfront
Faneuil

Recent Advances in DFT & TDDFT: Theory & Simulations

N. Govind, K. Lopata, *Organizers*
C. Huang, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 COMP 8. Localized orbital scaling correction for systematic elimination of delocalization and static/strong correlation error in density functional approximations. *W. Yang*

9:05 COMP 9. Tuned quantification of particle-hole distance in charge-transfer excitations: A revised version of the D_{CT} index. *M. Campetella, A. Peretto, I. Ciofini*

9:20 COMP 10. Accurate Fukui functions of finite systems by orbital-free DFT. *M. Pavanello*

9:50 COMP 11. Energetics and band-gap engineering in heterojunction solar cells and graphene/fluorographene interfaces. *S. Das, B. Barbellini, P. Somasundaran, V. Renugopalakrishnan*

10:05 COMP 12. Recovering exact conditions at semi-local DFT cost to mitigate energy and density errors for transition metal chemistry. *H.J. Kulik*

10:35 Intermission.

10:50 COMP 13. DFT-based embedding theories: Wavefunction-embedding, dynamics, excited states, and applications. *T.F. Miller*

11:20 COMP 14. Correcting DFT errors through v-representable density partitioning. *P. de Silva, T. Zhu, T.A. Van Voorhis*

11:35 COMP 15. Density functional theory of molecular fragments. *A. Wasserman*

12:05 COMP 16. Exploring new density-functional embedding techniques for strongly correlated electrons: From model to *ab initio* Hamiltonians. *B. Senjean, N. Nakatani, M. Tsuchizu, E. Fromager*

SECTION C

Westin Boston Waterfront
Alcott

COMP Meets CRYO: New Frontiers in Flexible Fitting, Image Processing & Refinement of Cryo-EM Data

G. Palermo, M. Feig, *Organizers, Presiding*

8:30 COMP 17. Inclusion of Cryo-EM data in flexible protein-protein docking. *M. Zacharias*

9:10 COMP 18. Computational tools to characterize structure and dynamics of biomolecular systems from single molecule experiments. *F. Tama*

9:50 COMP 19. Development of the flexible-fitting MD simulation method for cryo-EM images of large macromolecular structures and dynamics. *Y. Sugita, T. Mori*

10:30 Intermission.

11:00 COMP 20. Emerging unified description of transcription initiation from cryo-EM and integrative computational modeling. *C. Yan, Y. He, I.N. Ivanov*

11:40 COMP 21. Cryo-EM structure determination of large RNAs. *N. Toor*

SECTION D

Westin Boston Waterfront
Douglass

Membrane Protein Simulations & Free Energy Approaches**Receptors & Force Field**

N. K. Banavali, W. Im, *Organizers*
Y. L. Luo, *Organizer, Presiding*

C. N. Rowley, *Presiding*

8:30 COMP 22. Computational study of allosteric regulation of type 1 serine/threonine kinase receptors. *Y.L. Luo, W. Botello-Smith, A. Alsamarah, P. Chatterjee, C. Xie, J. Lacroix, J. Hao*

8:55 COMP 23. Binding to glutamate receptors: Follow the yellow brick road. *A. Yu, H. Salazar, A. Psted, A. Lau*

COMP

9:20 COMP 24. Molecular basis of stress-related a Class B GPCR using multiscale modeling. *C. Liao, J. Li, M. Brewer, V. May*

9:45 COMP 25. Binding modes and effects of allosteric drug leads in the Adenosine A₁ receptor. *Y. Miao, A. Bhattaraj, A.T. Nguyen, L.T. May, A. Christopoulos*

10:10 Intermission.

10:30 COMP 26. Development and application of a polarizable force field based on the classical drude oscillator. *A.D. Mackerell*

10:55 COMP 27. Molecular mechanical force fields with higher-order dispersion terms using the exchange-hole dipole moment model. *C.N. Rowley, E.R. Johnson, M. Mohebifar, E. Walters*

11:20 COMP 28. Achieving a high level of accuracy in modeling protein-ligand binding. *E. Harder, C. Wu, W. Damm, A. Roos, M. Reboul, J. Stevenson, R. Abel*

SECTION E

Westin Boston Waterfront
Paine

Computational Studies of Water

D. J. Sindhikara, Organizer
Y. Jin, Presiding

8:30 COMP 29. Thermodynamic anomalies in deeply stretched water. *R.S. Singh, Y. Altabet, F. Stillinger, P.G. Debenedetti*

8:45 COMP 30. Molecular dynamics study of TMAO and urea aqueous solutions. *X. Teng, T. Ichiye*

9:00 COMP 31. SSTMap: A computational tool creating solvation thermodynamic and structural maps from molecular dynamics trajectories. *S. Ramsey, K. Haider, A. Cruz, M.K. Gilson, T.P. Kurtzman*

9:15 COMP 32. Elucidating molecular motions of water using three-state transition matrices of hydrogen bond network patterns. *L. Edens, T. Zhou, T. Markland, A.E. Clark*

9:30 COMP 33. Accelerating the 3D-RISM implicit solvent model using treecode and multigrid methods. *L. Wilson, G. Liman, R. Kransy, T. Luchko*

9:55 COMP 34. Incorporating solvation thermodynamic mapping into docking. *T.E. Balus, M. Fischer, M.K. Gilson, B. Shoichet, T.P. Kurtzman*

10:20 Intermission.

10:35 COMP 35. Using range-separated hybrids for better electron vertical detachment energies in water cluster anions. *C. Zhao, V. Vlcek, D. Neuhauser, B.J. Schwartz*

10:50 COMP 36. Modeling hydration, one water molecule at a time. *P. Bajaj, M. Riera, A.W. Goetz, D.R. Moberg, F. Paesani*

11:15 COMP 37. Theoretical description of the polarization dependence of vibrational sum frequency generation spectroscopy at the water/vapor interface. *P.B. Moore, B. Space*

11:40 COMP 38. Pursuing the *ab initio* complete basis set limit for the harmonic vibrational frequencies of explicitly solvated halide and pseudo-halide ions. *G.S. Tschumper*

12:05 COMP 39. Physics of the anomalous diffusion coefficients of monovalent ions in water. *C. Dharmawardhana, Q. Huang, X. Teng, A.C. Simmonett, J.M. Rodgers, T. Ichiye*

12:20 COMP 40. Structure and exchange kinetics of water at xenotime mineral interface: An application to beneficiation of rare earth elements. *S. Roy, S. Govarpet Srinivasan, V. Bryantsev*

Merck Research Award Symposium

Sponsored by WCC, Cosponsored by ANYL, COMP, MEDI and PROF

Use of Computer Simulation to Teach Chemical Kinetics & Enzyme Kinetics in Undergraduate Research & Education

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SUNDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Adams

Material Science

C. M. Aikens, Organizer
F. Liu, Presiding

1:30 COMP 41. Designing hybrid biological materials: Controlling morphology via molecular composition. *S. Mushnoori, K. Schmidt, V. Nanda, M. Dutt*

1:55 COMP 42. Nanoscale isolated island polymer brushes: A simulation study. *O. Davydovich, N. Chen, A. Sidorenko, P.B. Moore*

2:20 COMP 43. Predicting ternary phase diagrams from molecular simulations. *J. McDonagh, M.A. Johnston, W.C. Swope, R.L. Anderson, E. Pyzer-Knapp, D. Bray*

2:45 COMP 44. COSMOplex: A completely new paradigm for the self-consistent simulation of self-organizing liquid systems. *A. Klamt, T. Gaudin, J. Schwäbel, U. Huniar*

3:10 COMP 45. Free-energy predictions of self-assembling polymers through nanoscale simulations. *A. Pietropaolo*

3:35 Intermission.

3:50 COMP 46. Development and testing of a dissipative particle dynamics force field for nonionic surfactants derived using experimental micellar property data. *W.C. Swope, A. Duff, M.A. Johnston, R.L. Anderson*

4:15 COMP 47. Visualizing and quantifying structural ordering underlying static structure factor peaks from molecular dynamics simulations of ionic liquids. *R.A. Wheeler, T. Mackay, R.A. Richardson*

4:40 COMP 48. Bottom-up coarse-graining of polyelectrolyte-coated gold nanoparticles. *G. Chong, R. Hernandez*

5:05 COMP 49. Toward the computational design of nanoreceptors with intelligent recognition abilities. *L. Riccardi, F. Rastrelli, F. Mancini, M. Devivo*

SECTION B

Westin Boston Waterfront
Faneuil

Recent Advances in DFT & TDDFT: Theory & Simulations

N. Govind, C. Huang, K. Lopata, Organizers
S. Sharifzadeh, Presiding

1:30 COMP 50. Building memory-dependent functionals in time-dependent density functional theory. *N.T. Maitra*

2:00 COMP 51. Exciton – vibrational couplings in ordered molecular arrays. *A. Mukazhanova, N.C. Frey, A. Mazaheripour, A. Bartlett, H. Nguyen, A.A. Gorodetsky, S. Sharifzadeh*

2:15 COMP 52. Recent advances in relativistic TDDFT. *X. Li, J.M. Kasper, T. Stetina, A. Petrone*

2:45 COMP 53. Angle-dependent strong-field molecular ionization rates with tuned range-separated time-dependent density functional theory. *A. Sissay, P. Abanador, F. Mauger, K. Schafer, M. Gaarde, K. Lopata*

3:00 COMP 54. Non-linear conductivity of liquid aluminum from real-time time-dependent density functional theory. *X. Andrade*

3:30 Intermission.

3:45 COMP 55. Fast TDDFT with the parallel transport gauge. *L. Lin*

4:15 COMP 56. MADNESS: Linear response at the basis set limit. *B. Sundahl, R.J. Harrison*

4:30 COMP 57. Multiscale modeling and computation of optically manipulated nano devices. *D. Liu*

5:00 COMP 58. Self-consistent predictor/corrector algorithms for probably stable propagation of the time-dependent Kohn-Sham orbitals. *J. Herbert, Y. Zhu*

SECTION C

Westin Boston Waterfront
Alcott

COMP Meets CRYO: New Frontiers in Flexible Fitting, Image Processing & Refinement of Cryo-EM Data

G. Palermo, M. Feig, Organizers, Presiding

1:30 COMP 59. Structural basis of eukaryotic transcription promoter opening at near-atomic resolution. *C. Yan, Y. He, I.N. Ivanov, E. Nogales*

2:10 COMP 60. Iterative molecular dynamics–Rosetta membrane protein structure refinement guided by cryo-EM densities. *S. Leelananda, S. Lindert*

2:50 COMP 61. Imaging viral RNA genomes and RNA transcription in action by cryoEM. *H.H. Zhou*

3:30 Intermission.

4:00 COMP 62. Classification of single particles from human cell extract reveals distinct structures. *E. Verbeke, A. Mallam, K. Drew, E.M. Marcotte, D. Taylor*

4:40 COMP 63. Dealing with dynamics and disorder in single-particle cryo-EM. *G. Hummer, P. Cossio*

SECTION D

Westin Boston Waterfront
Douglass

Membrane Protein Simulations & Free Energy Approaches

Ion Pumps, Ion Channel & Transporters

N. K. Banavali, W. Im, Y. L. Luo, Organizers
T. W. Allen, S. Noskov, Presiding

1:30 COMP 64. Insights from molecular simulations of the ion-pumping NADH-ubiquinone oxidoreductase (NQR). *W. Menzer, C. Li, O. Juarez, D.D. Minh*

1:55 COMP 65. Conformational changes between E1P to E2P states of SERCA by MD simulations based on string method and free-energy calculations. *Y. Sugita, C. Kobayashi*

2:20 COMP 66. Characterization of the dynamics in the central binding site and the extracellular vestibule of the serotonin transporter reveals new ligand discovery opportunities. *A. Abramyan, L. Shi*

2:45 COMP 67. Cation-specific modulations in the interacting allosteric network in LeuT binding pocket. *S. Noskov*

3:10 Intermission.

3:30 COMP 68. Atomistic string method solution for ion channel gating and modulation by general anesthetics. *B. Lev, S. Murail, F. Poitevin, B. Cromer, M. Baaden, M. Delarue, T.W. Allen*

3:55 COMP 69. Gating and modulation of inward rectifier potassium channels. *V. Jogini, D.E. Shaw*

4:20 COMP 70. Regulation of ion permeation in K channels: From kinetic models to atomistic simulations and back. *S. Bernèche*

SECTION E

Westin Boston Waterfront
Paine

Emerging Technologies in Computational Chemistry

C. L. Simmerling, Organizer
E. Metwally, Presiding

1:30 COMP 71. Leveraging expanding purchasable chemical space for ligand discovery. *T.E. Ballus, J. Lyu, A. Levit, I. Singh, J. McCorry, S. Wang, M. O'Meara, B. Shoichet, B.L. Roth, J.J. Irwin*

2:00 COMP 72. Technologies for computational chemistry at the Texas Advanced Computing Center. *W.J. Allen, J.M. Fanner*

2:30 COMP 73. QuanSA: Quantitative surface-field analysis, causal models for 3D-QSAR. *A.N. Jain, A.E. Cleves*

3:00 Intermission.

3:20 COMP 74. Cheminformatics approach to exploring and modeling trait-associated metabolite profiles. *J. Ash, M. Kuenemann, D. Rotroff, A. Molsinger-Reif, D. Fouches*

3:50 COMP 75. Allosteric communication networks in proteins revealed through pocket Crosstalk analysis. *G. La Sala, S. Decherchi, M. Devivo, W. Rocchia*

4:20 Judging and Announcements.

MONDAY MORNING

SECTION A

Westin Boston Waterfront
Adams

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

Y. Han, D. Kilin, Organizers
S. W. Kilina, Organizer, Presiding
A. Kryjevski, Presiding

8:30 Introductory Remarks.

8:35 COMP 76. Multiple exciton generation in chiral single-walled carbon nanotubes: DFT-based study including competition between carrier multiplication and phonon-mediated relaxation, energy and charge transfer. *A. Kryjevski, D. Mihaylov, S.W. Kilina, D. Kilin*

9:05 COMP 77. Manipulating the phonon bottleneck in graphene quantum dots. *H. Cheng*

9:35 COMP 78. Physical properties of conjugated nanopore materials. *Y. Dahnovsky, A. Pimachev*

10:05 COMP 79. Obtaining a statistical description of excited state properties in noisy chemical environments. *A. Chakraborty*

10:20 Intermission.

10:35 COMP 80. Engineered quantum dots and solar energy conversion. *V.I. Klimov*

11:15 COMP 81. Elevated excitation intensity studies of semiconductor nanocrystals. *R.D. Schaller*

11:45 COMP 82. Absorption and transport in thin nanoparticle solids. *G. Zimanyi*

12:15 COMP 83. Impact of binding conformations on charge transfer in CdSe quantum dots capped by N719 dyes. *S. Kilina, D. Vogel*

SECTION B

Westin Boston Waterfront
Faneuil

Recent Advances in DFT & TDDFT: Theory & Simulations

N. Govind, C. Huang, K. Lopata, *Organizers*
H. J. Kulik, *Presiding*

8:30 COMP 84. Advances in nontraditional density-based electronic structure theories. *X. Zhang, Q. Ou, K. Yu, B.G. del Rio, W.C. Witt, J.M. Dieterich, E.A. Carter*

9:00 COMP 85. Understanding and correcting DFT errors in ground and excited electronic states. *F. Liu, T.J. Martinez, H.J. Kulik*

9:15 COMP 86. Many pair expansion. *T.A. Van Voorhis*

9:45 COMP 87. Spectrum of the visual chromophore by multiconfiguration pair-density functional theory: Design of a strategy for automatic active space selection. *S. Dong, L. Gagliardi, D.G. Truhlar*

10:00 COMP 88. Combinatorial design and assessment of density functionals up to the top of Jacob's ladder. *M.P. Head-Gordon*

10:30 Intermission.

10:45 COMP 89. Theory of density-corrected density functional theory. *K. Burke, E. Sim, S. Song*

11:15 COMP 90. Non-empirical corrections for simultaneous correction of delocalization and static correlation errors in density functional theory. *A. Bajaj, H.J. Kulik*

11:30 COMP 91. SCAN meta-GGA and beyond. *J. Sun*

12:00 COMP 92. How can quantum chemistry help experiment to tackle the complex properties of dodecaborate anions? *E. Apra, J. Warneke*

SECTION C

*Westin Boston Waterfront
Alcott*

Revolutionizing Chemistry with Artificial Intelligence

AI for Small Molecules & Organic Reactions

P. Das, R. K. Das, O. Isayev, *Organizers, Presiding*

8:30 COMP 93. Deep learning for lead optimization: Junction tree variational autoencoder for molecular graph generation. *R. Barzilay*

8:55 COMP 94. SMILES2vec: An interpretable general-purpose deep neural network for predicting chemical properties. *N. Hodas, C. Siegel, A. Vishnu, G. Goh*

9:15 COMP 95. Application of AI to the REAL space: A step ahead to expand the synthetically feasible chemical space. *Y. Moroz, A. Zhemera, O. Isayev, M. Popova*

9:35 COMP 96. Adversarial threshold neural computer for molecular *de novo* design. *E. Putin, A. Asadulaev, Q. Vanhaelen, Y. Ivanenkov, A. Aliper, A. Zhavoronkov*

9:55 Intermission.

10:10 COMP 97. Designing an informative training data set for data-driven molecular property prediction. *S. Rangarajan*

10:30 COMP 98. Neural message passing and spectral graph transformations for property prediction of monomers and polymers. *N. Wilson, P. St. John, M.R. Nimlos, M.F. Crowley*

10:45 COMP 99. *De novo* molecular design using deep reinforcement learning methods. *H. Chen, M. Olivercrona, T. Blaschke, O. Engkvist, T. Kagej, C. Tyrchan*

11:05 COMP 100. Learning over graphs and geometries: Accelerated chemical discovery with computational chemistry data. *R. Gomez Bombarelli*

11:25 COMP 101. "Found in Translation": A deeper analysis of neural machine translation models for chemical reaction prediction. *P. Schwaller, T. Gaudin, D. Lanyi, C. Bekas, T. Laino*

SECTION D

*Westin Boston Waterfront
Douglass*

Membrane Protein Simulations & Free Energy Approaches

Protein-Lipid Interactions

N. K. Banavali, W. Im, Y. L. Luo, *Organizers*

R. Pomes, J. Robertson, *Presiding*

8:30 COMP 102. Diffusion and self-assembly of nanostructures in lipid membranes. *G. Hummer, M. Vögele*

8:55 COMP 103. Lipid-protein interactions are unique fingerprints for membrane proteins. *D. Tieleman, V. Corradi, S. Marrink*

9:20 COMP 104. Folding and assembly of peptides and proteins in membranes. *R. Pomes*

9:45 COMP 105. Understanding detergent-induced structural and dynamic perturbations in mitochondrial carriers. *C. Chipot, F. Dehez, P. Schanda*

10:10 Intermission.

10:30 COMP 106. Tuning the stability of membrane protein dimerization by changing the lipid solvent. *R. Chadda, A. Gil Ley, K. Struve, V. Krishnamani, L. Hughes, E.G. Kelley, S. Marujo-Teixeira, J. Faraldo-Gomez, J. Robertson*

10:55 COMP 107. Membrane binding of soluble enzymes, explored through simulation of bacterial P450s. *J.V. Vermaas, G. Beckham, M.F. Crowley*

11:20 COMP 108. Molecular perspective on protein-protein interactions at the tight junctions interface. *S. Nangia*

SECTION E

*Westin Boston Waterfront
Paine*

Data to Decisions: Frank Brown Memorial Symposium

Financially supported by BIOVIA

C. L. Waller, *Organizer*

A. Tropsha, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 COMP 109. The messy world of clinical trials: Why technology, data, and user-centricity matters – and why Frank's legacy will live on. *D.K. Agrafiotis*

9:00 COMP 110. Automated data analysis templates for SAR development and ADME optimization. *L.B. Akella, G. Berellini, G.R. Bhisetti, L. Silvan*

9:25 COMP 111. Potency and patents, new arenas for matched molecular pair analysis in the artificial intelligence world. *A. Dossetter, E.J. Griffen, A.G. Leach, S. Montague*

9:50 Intermission.

10:05 COMP 112. Hope is not a plan: Strategic application of chemical biology informatics to enable phenotypic screening and target validation. *P. Kutchukian*

10:30 COMP 113. Coupling biophysical approaches with molecular simulations to optimize compounds for challenging disease targets. *W. Sherman*

10:55 COMP 114. Informatics platform to facilitate chemical education and knowledge utilization. *J. Lee*

11:20 COMP 115. Therapeutic molecule foresight tool saving lives and saving billions of dollars. *A. Leszczynska, M. Schreiber, A. Hamed*

11:45 COMP 116. Reminiscing about the future of QSAR. *A. Tropsha*

12:10 Concluding Remarks.

MONDAY AFTERNOON

SECTION A

*Westin Boston Waterfront
Adams*

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

Y. Han, S. W. Kilina, *Organizers*

D. Kilin, *Organizer, Presiding*

1:30 COMP 117. Coherent and incoherent mechanisms of energy transfer. *A. Aspuru-Guzik*

2:00 COMP 118. Nonmarkovian effects in molecular photocells. *M.A. Ochoa, M. Zwolak*

2:30 COMP 119. New strategies for non-adiabatic dynamics with trajectories: Theory and applications. *I. Tavernelli*

3:00 COMP 120. Energy-transfer enhanced photocatalytic reduction of protons within quantum dot light harvesting-catalyst assemblies. *M. Kodaimati, S. Lian, G.C. Schatz, E.A. Weiss*

3:15 Intermission.

3:30 COMP 121. Calculating structural, optical, and conductivity properties of nanostructured semiconductor surfaces with *ab initio* and density matrix methods. *D.A. Micha*

4:00 COMP 122. Predictive description of photo-induced electron transfer or transport through molecular-resolved interface. *B.D. Dunietz*

4:30 COMP 123. Interfacial proton-coupled electron transfer: Artificial photosynthesis and photoreduced nanoparticles. *S. Hammes-Schiffer*

5:10 COMP 124. Investigating photoinduced proton coupled electron transfer reaction using quasi diabatic dynamics propagation. *P. Huo*

SECTION B

*Westin Boston Waterfront
Faneuil*

Recent Advances in DFT & TDDFT: Theory & Simulations

C. Huang, K. Lopata, *Organizers*
N. Govind, *Organizer, Presiding*

1:30 COMP 125. Coupling first principles molecular dynamics and many body perturbation theory calculations. *G.A. Galli*

2:00 COMP 126. Large-scale GW calculations on pre-exascale HPC systems. *M. Del Ben, F. da Jornada, A. Canning, S.G. Louie, J. Deslippe*

2:30 COMP 127. Many-body perturbation theory analysis of point defects in bulk and monolayer semiconducting materials. *K. Lewis, S. Sharifzadeh*

3:00 COMP 128. Real-time and finite temperature Green's function approaches for excited states, response functions, and thermodynamics. *F.D. Vila, J.J. Kas, J.J. Rehr*

3:30 Intermission.

3:45 COMP 129. Green's function coupled-cluster: Simulating spectral function for real molecular systems. *B. Peng, K. Kowalski*

4:15 COMP 130. Understanding excited-states of a perylene diimide nanowire from first principles theory. *T. Huang, A. Mukazhanova, S. Sharifzadeh*

4:30 COMP 131. TDDFT response for chiroptical spectroscopies. *J. Autschbach*

5:00 COMP 132. Using TDDFT for improved absorption lineshapes for molecules in solution: Combining ensemble sampling, vibronic effects, and energy gap autocorrelation functions. *C. Isborn*

SECTION C

*Westin Boston Waterfront
Alcott*

Revolutionizing Chemistry with Artificial Intelligence

AI for Small Molecules & Organic Reactions

P. Das, R. K. Das, O. Isayev, *Organizers, Presiding*

1:30 COMP 133. Generative models for structure-based drug design. *D. Koes*

1:55 COMP 134. *De novo* drug design with deep generative models. *P. Das*

2:15 COMP 135. Imputation of protein activity data using deep learning. *T. Whitehead, P. Hunt, B. Pellegrini, M.D. Segall, G. Conduit*

2:35 COMP 136. AI driven design of novel kinase inhibitors. *O. Isayev, M. Popova, A. Tropsha*

2:55 Intermission.

3:10 COMP 137. Active search for computer-aided drug design. *J.D. Hirst, S. Oatley, D. Oglic, T. Gaertner*

3:30 COMP 138. Improving docking-based virtual screening with convolutional neural networks. *J. Cruz Pereira, C. Santos, E. Caffarena*

3:50 COMP 139. Quantitative label free surface enhanced Raman scattering spectroscopy in the single molecule regime enabled by deep convolutional neural networks. *W. Thrift*

4:05 COMP 140. Leveraging generative models for the directed expansion of compound libraries. *V. Sresht, S. Ra, B.K. Rai, B.A. Lefker, A. Mathiowetz*

4:25 COMP 141. Accelerating research through lab notebook prospecting: A chemistry recommender system. *S. Rohall, M. Pancost-Heidebrecht, B. Shirley, D. Bacon, M. Tarselli*

SECTION D

*Westin Boston Waterfront
Douglass*

Membrane Protein Simulations & Free Energy Approaches

Protein-Lipid & Protein-Protein Interactions

N. K. Banavali, W. Im, Y. L. Luo, *Organizers*

J. Gumbart, A. C. Pan, *Presiding*

1:30 COMP 142. Molecular dynamics study of the Flock House virus membrane active peptide: Evaluation of binding, folding, oligomerization and pore formation mechanisms and energetics. *S. Nangia, J. Pattis, E.R. May*

1:55 COMP 143. Surface dilution kinetics: The association of phospholipase A2 with lipid-bilayers. *V. Mouchlis, J. McCammon, E.A. Dennis*

2:20 COMP 144. Free energy sampling of hierarchical dynamic landscapes in membrane environment. *W. Yang*

2:45 COMP 145. Flexibility of free and AcrB-bound AcrA in the AcrAB-TolC multidrug efflux pump of *Escherichia coli* determined using 3D PMFs. *A. Hazel, J. Gumbart*

3:10 Intermission.

COMP

3:30 COMP 146. Free energy profile and the dimer-tomonomer equilibrium of the phospholipase Plaf from *Pseudomonas aeruginosa*. *S. Schott-Verdugo, S. Ahmad, R. Batra-Safferling, J. Granzin, F. Kovacic, K. Jaeger, H. Gohlke*

3:55 COMP 147. Unveiling a regulation mechanism of small GTPases on activity of plexin-B1 membrane receptor. *Z. Li, J. Muller-Greven, M. Buck*

4:20 COMP 148. Atomic-level characterization of protein-protein association. *A.C. Pan, D. Jacobson, K. Yatsenko, D. Sritharan, T.M. Weinreich, D.E. Shaw*

4:45 COMP 149. Raf promotes dimerization of the Ras G-domain in the presence of membrane head group components. *C. Mattos*

SECTION E

Westin Boston Waterfront
Paine

Data to Decisions: Frank Brown Memorial Symposium

A. Tropsha, *Organizer*

C. L. Waller, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 COMP 150. Mining clinical trials information using text mining and cheminformatics technologies. *T.I. Oprea*

2:00 COMP 151. Analysis of large chemical-biological space aimed at discovery of novel anti-HIV agents. *D. Druzhilovskiy, D. Filimonov, A. Veselovsky, V. Bezhentsev, L. Stolbov, V. Poroikov, M.C. Nicklaus*

2:25 COMP 152. Data is like paint... it does no good until it is applied. *M.D. Segall*

2:50 COMP 153. Translating metabolomic data into therapeutics insights using artificial intelligence. *L. Pirhaji*

3:15 Intermission.

3:30 COMP 154. Expanding the impact of computational modeling in the pharmaceutical industry beyond discovery chemistry. *E.C. Sherer*

3:55 COMP 155. ToxPHACTS - Data driven decision support for toxicologists. *G.F. Ecker, B. Knasmueller, B. Neckam, M. Grandits, A. Dangl*

4:20 COMP 156. Accelerating problem solving and decision making in medicinal chemistry through visualisation. *P.C. Hawkins, K. Boda*

4:45 COMP 157. Data to decisions: Creating a culture of model-driven drug discovery. *C.L. Waller*

5:10 Concluding Remarks.

Undergraduate Research Posters

Computational Chemistry

Sponsored by CHED, Cosponsored by COMP and SOCED

Materials in Extreme Environments

New High Pressure Phases

Sponsored by PHYS, Cosponsored by COMP

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

H. L. Woodcock, *Organizer*

8:00 - 10:00

231-233, 235-237, 241, 243, 271, 294-295, 310-311, 316-318, 323-324, 338-339, 344-345, 348-349, 355, 357, 361, 369, 371, 376, 379, 383, 392-396, 400, 410, 412-421, 423, 426-430, 439-440. See subsequent listings.

TUESDAY MORNING

SECTION A

Westin Boston Waterfront
Adams

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

Y. Han, D. Kilin, *Organizers*

S. W. Kilina, *Organizer, Presiding*

B. G. Levine, *Presiding*

8:30 COMP 158. Spin-correct spin-flip using ORMAS. *M.S. Gordon, J. Mato*

9:00 COMP 159. Equation-of-motion relativistic coupled-cluster theory. *X. Li, D. Williams-Young, L. Koulias, A.E. DePrince, D. Silva*

9:30 COMP 160. Electronic excited states from non-orthogonal configuration interaction: Valence and core excitations, and strong correlations. *M.P. Head-Gordon*

10:00 COMP 161. Understanding electron-nuclear dynamics of supported gold nanoparticles on titanium oxide surfaces for photocatalysis. *R.D. Senanayake, A.Z. Clayborne, K. Honkala, C.M. Aikens*

10:15 Intermission.

10:30 COMP 162. Treating large-scale strong correlation with adaptive configuration interaction and the driven similarity renormalization group. *J.B. Schriber, C. Li, F.A. Evangelista*

11:00 COMP 163. Modeling excited state chemistry with TDDFT. *S.M. Parker, S. Roy, L. Mohanam, A. Robledo, F.U. Furch*

11:30 COMP 164. Defect-induced conical intersections in semiconductor nanocrystals. *B.G. Levine, Y. Shu, B. Fales, W. Peng, M.P. Esch, D. Hardwick*

12:00 COMP 165. Thermochemical predictions for transition metal species: From DFT to ab initio approaches. *A.K. Wilson*

SECTION B

Westin Boston Waterfront
Faneuil

Recent Advances in DFT & TDDFT: Theory & Simulations

N. Govind, C. Huang, K. Lopata, *Organizers*

J. Sun, *Presiding*

8:30 COMP 166. Recent progress in exchange-correlation functionals for Kohn-Sham DFT, in TDDFT, and in multiconfiguration pair-density functional theory. *D.G. Truhlar*

9:00 COMP 167. How do DFT+U and hybrids alter widely applied linear scaling relations in heterogeneous catalysis? *Q. Zhao, H.J. Kulik*

9:15 COMP 168. Solving the density functional conundrum: Elimination of systematic errors to derive accurate reaction enthalpies of complex organic reactions. *K. Raghavachari, A. Sengupta*

9:45 COMP 169. Characterizing density and delocalization errors in DFT. *D. Hait, M.P. Head-Gordon*

10:00 COMP 170. Density functional theory and two-electron reduced-density matrix methods. *A.E. DePrince*

10:30 Intermission.

10:45 COMP 171. Excitonic effects with stochastic TDDFT: Application to large phosphorene sheets. *D. Neuhauser, E. Rabani, V. Vlcek*

11:15 COMP 172. Development of stochastic linear-response TDDFT method for obtaining distribution of excited state properties. *J. Scher, A. Chakraborty*

11:30 COMP 173. Attacking the strong scaling limit in linear scaling hybrid density functional theory. *J. Jia, A. Vazquez-Mayagoitia, R.A. Distasio*

12:00 COMP 174. Excited-electron dynamics due to particle radiation in solids and near surfaces from time-dependent density functional theory. *A. Schleife*

SECTION C

Westin Boston Waterfront
Alcott

Revolutionizing Chemistry with Artificial Intelligence

AI & Quantum Calculations

P. Das, R. K. Das, O. Isayev, *Organizers, Presiding*

8:30 COMP 175. Searching for the Holy Grail: Fast and accurate force fields. *G. Csanyi*

8:50 COMP 176. Automated machine learning of many-body potentials for accurate molecular simulations. *S. Reddy, T. Nguyen, Y. Zhai, A.W. Goetz*

9:05 COMP 177. Machines learning physics: Deep tensor neural networks for dynamically optimized effective Hamiltonians. *B.T. Nebgen, N. Lubbers, S. Tretiak*

9:25 Intermission.

9:40 COMP 178. Genetic algorithm aided DFT studies of heterogeneous catalytic materials and reactions. *Y. Fang, T. Nie, X. Gong*

10:00 COMP 179. Novel and transferable charge partitioning scheme using a deep neural network. *A. Sifain, N. Lubbers, B.T. Nebgen, J.S. Smith, A. Likhov, O. Isayev, A.E. Raitberg, S. Tretiak*

10:15 COMP 180. Data-driven many-body representations with chemical accuracy for molecular simulations from the gas to the condensed phase. *T. Nguyen, E. Szekely, G. Imbalzano, J. Behler, G. Csanyi, M. Ceriotti, A.W. Goetz, F. Paesani*

10:40 COMP 181. Evolutionary design of organic molecules based on deep learning and genetic algorithm. *Y. Choi, S. Kang, Y. Kwon, I. Kim, J. Yoo, K. Kim, H. Lee*

SECTION D

Westin Boston Waterfront
Douglass

Membrane Protein Simulations & Free Energy Approaches

Intrinsic Disordered Protein & Other Simulations

N. K. Banavali, W. Im, Y. L. Luo, *Organizers*

S. Yang, H. Yu, *Presiding*

8:30 COMP 182. Role of pre-structuring in the molecular recognition of intrinsic disordered proteins regions. *E. Fadda*

8:55 COMP 183. Multi-technique modeling of structural disorder in estrogen receptor. *S. Yang*

9:20 COMP 184. Liquid structure of elastin. *S. Rauscher, R. Pomès*

9:45 Intermission.

10:05 COMP 185. Molecular quantum-dot cellular automata based on diboryl monoradical anions. *X. Wang, V. Inakollu, H. Yu*

10:30 COMP 186. Critical role of histone tail entropy in nucleosome unwinding. *B. Zhang*

SECTION E

Westin Boston Waterfront
Paine

Advancing RNA Designs

C. Hajdin, N. Renaud, A. M. Wassermann, *Organizers, Presiding*

8:30 Introductory Remarks.

8:45 COMP 187. Rational, structure-based design of mRNA therapeutics. *M.L. Hall*

9:15 COMP 188. RNA structure centric machine learning of primary microRNA biogenesis. *G.M. Rice, V. Shivashankar, E. Ma, J.L. Barya, M. Buehler, R. Nutiu*

9:45 COMP 189. Framework for how to target RNA with small molecules. *C. Hajdin, K.M. Weeks*

10:15 Intermission.

10:30 COMP 190. RNA as a small molecule drug target: Discovery of selective RNA-binding small molecules by high-throughput affinity-selection mass spectrometry. *N. Rizvi*

11:00 COMP 191. Computational high-throughput screening of modified RNA interactions with proteins. *A. Orr, J. Camilo Gonzalez, L.M. Contreras, P. Tamamis*

11:30 COMP 192. Computational approaches to targeting RNA with small molecules. *D. Chin*

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis

Flow Synthesis

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

GSSPC: Frontiers in Computational Chemistry: Bridging the Gap Between Theory & Experiment

Sponsored by CHED, Cosponsored by COMP

Materials in Extreme Environments

Superhard Materials & Materials Under the Influence of Radiation, Field & Temperature

Sponsored by PHYS, Cosponsored by COMP

TUESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Adams

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

Y. Han, S. W. Kilina, *Organizers*

D. Kilin, *Organizer, Presiding*

E. Hobbie, *Presiding*

1:30 COMP 193. Highly luminescent lead halide perovskite nanocrystals: Synthesis, photophysics and photochemistry. *M. Kovalenko*

2:00 COMP 194. Role of surface passivation and doping on photoluminescence quantum yield in lead halide perovskite quantum dots. *A. Forde, T.M. Inerbaev, D. Kilin*

2:15 COMP 195. Efficient photoluminescence from colloidal nanocrystals: Role of the interface for silicon and perovskite. *E. Hobbie*

2:45 COMP 196. Charge separation and charge carrier trapping of lead iodide perovskites. *K. Yamashita*

3:15 Intermission.

3:30 COMP 197. Modeling materials and interfaces in metal-halide perovskite solar cells. *F. De Angelis*

4:00 COMP 198. Advances and promises of layered halide hybrid perovskites. *S. Tretiak*

4:30 COMP 199. Photoinduced phase segregation in mixed halide perovskites and its impact on photovoltaic performance. *P.V. Kamat, S.J. Yoon, G. Balakrishna*

5:00 COMP 200. Coupling of electronic transport states with lattice fluctuations in organo-halide perovskites. *J.B. Asbury*

SECTION B

*Westin Boston Waterfront
Faneuil*

Recent Advances in DFT & TDDFT: Theory & Simulations

N. Govind, C. Huang, K. Lopata, *Organizers*
C. Isborn, *Presiding*

1:30 COMP 201. Real-time TDDFT combined with nonadiabatic molecular dynamics: Theory and applications to photovoltaic nanoscale materials. *O.V. Prezhdo*

2:00 COMP 202. Modeling absorption spectra of organic chromophores with TD-DFT: A benchmarking study with Max A. Weaver Dye Library. *E. Jakubikova*

2:30 COMP 203. Quasi-diabatic representation for nonadiabatic dynamics propagation. *P. Huo*

2:45 COMP 204. Theoretical investigations of the ultrafast correlated electronic and nuclear dynamics in intense x-ray pulses: From atoms to clusters. *P. Ho*

3:15 Intermission.

3:30 COMP 205. Some recent developments to accelerate and better characterize electronic excitation spectra from real-time time-dependent electronic structure theories. *S. Ghosh, J.C. Asher, D.N. Bowman, L. Gagliardi, C.J. Cramer, N. Govind*

4:00 COMP 206. Solving challenging TDDFT problems with a well-tempered adaptive method. *J.M. Kasper, D.B. Williams-Young, E. Vecharynski, C. Yang, X. Li*

4:15 COMP 207. Ensemble optimized time-dependent density functional theory. *S.M. Parker, S. Roy, F.U. Furch*

4:45 COMP 208. Real-time density functional tight binding: A new computational approach for probing plasmonic properties of large material systems. *B.M. Wong, N.V. Ilawe, M.B. Oviedo*

SECTION C

*Westin Boston Waterfront
Alcott*

Revolutionizing Chemistry with Artificial Intelligence

Precision Medicine

P. Das, R. K. Das, O. Isayev, *Organizers, Presiding*

1:30 COMP 209. Molecular biology meets big data: Winning the game of telephone. *B. Hayete, B. Church*

1:55 COMP 210. Enabling scalable machine learning for precision medicine. *S. Gujra*

2:15 COMP 211. Predicting three-dimensional genome organization with chromatin states. *B. Zhang*

2:35 COMP 212. From the materials genome to precision medicine initiative. Can machine learning do it all? *A. Furmanchuk*

2:55 Intermission.

3:10 COMP 213. Translating metabolomics into therapeutics insights using artificial intelligence. *L. Pirhaji*

3:30 COMP 214. Bayesian causal modeling of multimodal data towards precision medicine. *R.K. Das*

3:50 COMP 215. Ensemble computational intelligence reveals novel molecular signatures of cancer biology and pan-cancer survival. *N.A. Cifone*

4:10 COMP 216. Novel applications of quantum machine learning algorithms in precision medicine. *O. Gamel*

SECTION D

*Westin Boston Waterfront
Douglass*

Membrane Protein Simulations & Free Energy Approaches

Methods

W. Im, Y. L. Luo, *Organizers*

N. K. Banavali, *Organizer, Presiding*
G. Lamoureux, *Presiding*

1:30 COMP 217. Modeling and prediction of protein structure using deep neural networks. *G. Lamoureux*

1:55 COMP 218. Unified framework for umbrella sampling with application to insulin dimerization. *A. Dinner*

2:20 COMP 219. Simulating electron dynamics in polarizable environments. *X. Wu, J. Teuler, F. Cailliez, C. Clavaguera, A. Alvarez-Ibarra, D.R. Salahub, A. de la Lande*

2:45 COMP 220. Leveraging structural and chemical knowledge to clarify the role of dynamics in macromolecular function. *N.K. Banavali*
3:10 Intermission.

3:30 COMP 221. One-dimension free energy perturbation/Hamiltonian replica exchange molecular dynamics (FEP/H-REMD) method with unbiased thermodynamic axis. *W. Jiang*

3:55 COMP 222. Multidimensional free energy landscape governing structural transitions of a neurotransmitter transporter in membrane. *E. Tajkhorshid*

4:20 COMP 223. Proton transport in biomolecular systems: A remarkably complex and collective phenomenon. *G.A. Voth*

4:45 COMP 224. CHARMM-GUI multicomponent assembler. *W. Im*

SECTION E

*Westin Boston Waterfront
Paine*

Drug Design

Macrocyclic & Ligand-Based Approaches

Y. Tseng, *Organizer*

M. R. Landon, *Organizer, Presiding*

1:30 COMP 225. Conformational analysis and visualisation of macrocycles in solution and the solid-state. *P.C. Hawkins, S. Wlodek, K. Boda*

1:55 COMP 226. Rapid and accessible *in silico* macrocycle design. *R. Scaffin, M. Bauer, M.D. Mackey, S. Sciammetta, G. Tedesco*

2:20 COMP 227. Simple metrics to identify opportunities for macrocyclization of small-molecule ligands. *S. Sekharan, R.A. Sykes, P. Sanschagrin, M.D. Cummings*

2:45 Intermission.

3:00 COMP 228. Characterizing the unbound state of drug-like compounds: Implications for molecular recognition. *N. Foloppe, I. Chen*

3:25 Discussion.

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis

Reaction Planning & Screening

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

GSSPC: Frontiers in Computational Chemistry: Bridging the Gap Between Theory & Experiment

Sponsored by CHED, Cosponsored by COMP

TUESDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B1*

Chemical Computing Group Graduate Student Travel Awards

K. N. Kirschner, C. L. Simmerling, *Organizers*

6:00 – 8:00

COMP 229. Drawing catalytic power from charge separation: Stereoelectronic and zwitterionic assistance in the Au(I)-catalyzed Bergman cyclization. *G. Gomes, I. Alabugin*

COMP 230. Density localization and scaling relations in the solid state: Understanding divergent behavior for hybrids and DFT+U. *Q. Zhao, H.J. Kulik*

COMP 231. Nature of oxygen-adsorbate chemical bonding on transition metal oxides. *V. Fung, Z. Wu, D. Jiang*

COMP 232. Unravel protein allostery mechanism. *H. Zhou, P. Tao*

COMP 233. Importance of electrostatic effects in the stereoselectivity of NHC-catalyzed kinetic resolutions. *R. Maji, S.E. Wheeler*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B1*

NVIDIA GPU Award

M. E. Berger, C. L. Simmerling, *Organizers*

6:00 – 8:00

COMP 234. Overcoming the AO-to-MO bottleneck: GPU-accelerated calculation of molecular integrals using control-variate stratified sampling Monte Carlo method using CUDA thrust. *P. McLaughlin, M. Bayne, A. Chakraborty*

COMP 235. Exploiting graphical processing units (GPUs) to enable large-scale quantum chemistry of solvated molecules with polarizable continuum models. *F. Liu, D.M. Sanchez, H.J. Kulik, T.J. Martinez*

COMP 236. Accelerating consumable HPC. *A. Harrison, M.A. Johnston*

COMP 237. Implementation of GPU-accelerated partial nudged elastic band method into Amber for finding minimum free energy pathways in biomolecular systems. *D. Ghoreishi, D.S. Cerutti, A.E. Roitberg*

COMP 238. Development of a tandem GPU-to-GPU approach for accelerating conformational sampling of excited states properties using stochastic linear-response TDDFT. *J. Scher, A. Chakraborty*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B1*

OpenEye Outstanding Junior Faculty Award

C. L. Simmerling, *Organizer*

6:00 – 8:00

COMP 239. Methodologies for enhanced unbiased sampling of free energy landscapes of proteins. *D. Shukla*

COMP 240. Photochemistry in complex media: Insights from excited-state density-functional tight-binding. *T. Kowalczyk*

COMP 241. Origins of the mechanochemical coupling of peptide bond formation to protein synthesis. *B. Fritch, A. Kosolapov, P. Hudson, D. Nissley, H.L. Woodcock, C. Deutsch, E. O'Brien*

COMP 242. Computational design of superhydrophobic surfaces. *S. Fialoke, A. Patel*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B1*

Poster Session

H. L. Woodcock, *Organizer*

6:00 – 8:00

COMP 243. Novel and rigorous free energy perturbation approach to estimate binding affinity of ligands with multiple protonation states. *C. de Oliveira, H. Yu, W. Chen, R. Abel, L. Wang*

COMP 244. Alchemical response parameters from an analytical model of molecular binding. *E. Gallicchio, D. Kilburg*

COMP 245. SMARTS comparison and the analysis of HTS filter sets. *R. Schmidt, E.S. Ehmki, M. Rarey*

COMP 246. Binding affinities between small molecules and rigid proteins. *D.D. Minh*

COMP 247. Probabilistic framework for constructing temporal relations in replica exchange molecular trajectories using machine learning and graph theory. *A. Chattopadhyay, U. Priyakumar*

COMP 248. GPU-accelerated coarse-grained simulations of protein-protein docking with flexible linkers. *A. Pinska, R.B. Best, M. Kuttel*

COMP 249. Enriched optimization of molecular properties under constraints: An electrochromic example. *C.B. Rinderspacher, J.M. Elward*

COMP 250. Replica exchange Gaussian accelerated molecular dynamics: Improved enhanced sampling and free energy calculation. *Y.M. Huang, J. McCammon, Y. Miao*

COMP 251. Prediction of molecular properties in condensed phase by means of first principle molecular simulation with well-balanced accuracy and efficiency: Application of effective fragment potential version 2 - molecular dynamics (EFP2-MD). *H. Mori, N. Kuroki*

COMP 252. Structural stability of chignolin by using relaxation mode analysis and RISM theory. *A. Mitsutake, Y. Maruyama*

COMP 253. Exploiting the role of membrane anchoring on the peculiar biological behaviour of multi-drug resistant enzyme New Delhi metallo- β -lactamase 1. *A. Prunotto, G. Bahr, L. Gonzalez, A.J. Vila, M. Dal Peraro*

COMP 254. Modelling the structure and dynamics of bacterial cellulose synthase-like proteins to identify motifs critical for their specific functions. *D. Oehme, M. Downton, A. Bacic, M. Doblin*

COMP 255. Molecular dynamics study of the role of zinc ions in Clavamin A interaction with *E. coli* membrane. *S.S. Duay, A.M. Angeles Boza, E.R. May*

COMP 256. Microscopic characterization and computational titration of GRP1-PH domain bound to anionic phospholipids lipids. *S. Pant, B. Radak, E. Tajkhorshid*

COMP 257. Microdomain registration in PAA-PBD diblock-copolymers investigated with simulations. *P.B. Moore, N. Chen*

- COMP 258.** NAMD's enhanced sampling techniques applied to QM/MM simulations. *M. Cardoso dos Reis Melo, R.C. Bernardi, Z. Luthey-Schulten*
- COMP 259.** Understanding unusual noncovalent interactions in proteins through large-scale electronic structure. *H. Qi, H.J. Kulik*
- COMP 260.** Elucidation of the complex hydrogen bonding in vanadium chloroperoxidase using the QM/MM and atoms-in-molecules approaches. *G. Anderson, R.N. Behera, R. Gomatam*
- COMP 261.** Enumerating the inorganic universe of small complexes for machine learning. *S.O. Gugler, J. Janet, H.J. Kulik*
- COMP 262.** Effect of structure on quasiparticle gap in semiconductor quantum dots. *S. Ali, J. Scher, A. Chakraborty*
- COMP 263.** Relativistic quantum chemistry in an adaptive multiwavelet basis. *J. Anderson, R.J. Harrison*
- COMP 264.** Computation of vibronic coupling assisted electron transfer rates. *S. Chaudhuri, S. Hedström, V.S. Batista*
- COMP 265.** Protospacer adjacent motif-induced allostery activates CRISPR-Cas9. *G. Palermo, C. Gravina Ricci, A. Fernando, I. Rivalta, V.S. Batista, M. Jinek, J. McCammon*
- COMP 266.** Construction of force field of acetic acid system. *J. Ma, B. Wang, J. Zhu*
- COMP 267.** Evaluation of butyrylcholinesterase inhibitors through computational binding mode analysis. *P. Bremer, W. Alvarado, E.J. Sorin*
- COMP 268.** Predicting surrogate fuel properties using molecular dynamics. *B.H. Morrow, S. Maskey, P.T. Mikulski, M. Knippenberg, D.J. Luning Prak, J.A. Harrison*
- COMP 269.** Single point mutations in acetyl- β -glucosidase allosterically alter enzyme activity in Gaucher disease. *M.G. Souffrant, X. Yao, A.D. Fisher, D. Hamelberg*
- COMP 270.** Upgrades to FEMVib: A finite element method *ab initio* vibrational analysis program. *H. Pearce*
- COMP 271.** Application of clustering of ligand diffusion coefficient pairs (CoLD-CoP) in detecting cooperative binding and hence in fragment-based drug discovery. *S. Patnala*
- COMP 272.** Exploration and modeling of electron traps in interphase regions of functionalized polymer nanocomposites. *T. Ratcliff, C.M. Breneman*
- COMP 273.** QwikMD: Gateway for easy simulation with VMD and NAMD. *J. Ribeiro, R.C. Bernardi, T. Rudack, K. Schulten, E. Tajkhorshid*
- COMP 274.** Growing gold nanoclusters in MOFs for catalysis. *S. Jensen, T. Thanhouser*
- COMP 275.** Charge transfer through incremental full configuration interaction. *H. Kim, P.M. Zimmerman*
- COMP 276.** Modeling photoinduced chemical reactions with time-dependent excited-state molecular dynamics. *Y. Han, D. Kilin*
- COMP 277.** Facet-dependent photocatalytic decomposition of N₂O on the anatase TiO₂: A DFT study. *L. Wang, W. Song, J. Liu, Z. Zhao*
- COMP 278.** Enhanced photoluminescence quantum yield in lead halide perovskite quantum dots through doping with manganese ion: A computational study. *A. Forde, D. Kilin*
- COMP 279.** Spin-resolved and non-collinear charge dynamics in functionalized semiconductors. *T. Inerbaev, S. Jensen, Y. Han, D. Kilin*
- COMP 280.** *Ab initio* study of electron dynamics with explicit treatment of momentum dispersion on Si nanowires oriented in different directions. *F. Fatima, D. Vogel, T. Inerbaev, N. Oncel, D. Kilin*
- COMP 281.** Influence of chemical composition on relaxation rates of electron/hole pair in (PbX)_{1-x}(CdX)_x (X = S, Se) core/shell quantum dots. *L. Lystrom, S.W. Kilina*
- COMP 282.** Photochemistry via strings intersecting with cones. *C. Aldaz, P.M. Zimmerman*
- COMP 283.** Thermal stability enhancement of methyl ammonium lead iodide perovskites with formic acid adsorption: An ultra-high vacuum based experimental study. *M.T. Nayakasinghe, Y. Han, D. Kilin, U. Burghaus*
- COMP 284.** Effects of charge and interactions with DNA bases on the structure and optical response of dimers of silver clusters. *M.A. Javed, S. Kilina*
- COMP 285.** Chemical defects in (10,5) single-walled carbon nanotubes: Position vs. polarity of covalently attached groups. *B.M. Weight, B. Gifford, S. Tretiak, S. Kilina*
- COMP 286.** Charge transfer between a lead halide perovskite and organic dyes. *D. Ramirez, D. Kilin*
- COMP 287.** Effects of electron withdrawing/donating groups at diimine ligands on absorption spectra of iridium (III) complexes. *D. Ramirez, M.A. Javed, W. Sun, S. Kilina*
- COMP 288.** Electron dynamics at lead halide perovskite/spiro-OMeTAD interface. *L. Johnson, A. Forde, D. Kilin*
- COMP 289.** Predictive descriptions of photo-induced electron transfer or transport through molecular-resolved interfaces. *B.D. Dunietz*
- COMP 290.** Computer-aided rational design of near-infrared absorbing dye molecule. *A. Narsaria, J. Poater, A. Ehlers, C. Guerra, K. Lammerstma, F. Bickelhaupt*
- COMP 291.** Initial decomposition reactions of metal pentazolate hydrates from quantum mechanics simulations. *D. Guo, Z. Luo, S. Morozov, M. Cheng, Q. An*
- COMP 292.** Triplet exciton transfer across the interface of colloidal Nano-structure and organic molecules. *T. Goldzak, T.A. Van Voorhis, N. Geva*
- COMP 293.** Scoring function to predict permeability of compounds through bacterial porins. *M. Ceccarelli, S. Acosta-Gutierrez, I. Bodrenko*
- COMP 294.** Advantages of deep sea fishing compared to fishing in a pond. *Y. Moroz, C. Lemmen, O. Savych, C. Detering, F. Klingler*
- COMP 295.** Robust ensemble docking with WScore. *S. Jerome, R. Murphy, M. Repasky, R.A. Friesner*
- COMP 296.** Binding mode determination in fragment based drug discovery using X-ray crystallographic data coupled with QM/MM based refinement: Further applications of XModeScore. *O. Borbulevych, L. Westerhoff*
- COMP 297.** Probabilistic protonation of protein-ligand complexes. *M. Verdank*
- COMP 298.** Enhancing feature learning for chemical reaction prediction. *J. Baylon*
- COMP 299.** Deep neural networks and molecular dynamics. *R. Car*
- COMP 300.** Neural networks approach to predict the packing density of 1.5 million organic molecules. *M. Afzal, A. Sonpal, M. Haghghatdari, J. Hachmann*
- COMP 301.** Phoenix: A Bayesian algorithm for optimization and inverse design. *F. Häse, L. Roch, C. Kreisbeck, A. Aspuru-Guzik*
- COMP 302.** ChemOS: Paving the way for autonomous experimentation. *L. Roch, F. Häse, C. Kreisbeck, T. Tamayo-Mendoza, L. Yunker, J. Hein, A. Aspuru-Guzik*
- COMP 303.** Deep learning isozyme-specific P450 metabolism. *N. Dang, S. Swamidass*
- COMP 304.** Combining structural and chemical feature predictors for fast and robust prediction of CO₂ adsorption by metal organic frameworks using a machine learning approach. *M. Pardakhti, R. Srivastava*
- COMP 305.** Population-based *de novo* molecule generation using grammatical evolution. *N. Yoshikawa, K. Terayama, T. Honma, K. Oono, K. Tsuda*
- COMP 306.** Predicting the outcomes of Diels-Alder reactions via machine learning vs. quantum methods. *E. Gajewska, W. Beker, T. Badowski, B. Grzybowski*
- COMP 307.** Accelerating inorganic discovery with machine learning and automation. *H.J. Kulik*
- COMP 308.** Towards exact molecular dynamics simulations with machine-learned force fields. *S. Chmiela, H. Sauceda, K. Müller, A. Tkatchenko*
- COMP 309.** General machine learning based predictive method for energy-geometry dependency of molecules. *E. Moharremi, M. Pardakhti, R. Srivastava, S.L. Suib*
- COMP 310.** Supramolecular peptide amphiphile-polymeric hybrid hydrogels for photo-actuation: Modeling and simulation. *A. Iscen, G.C. Schatz*
- COMP 311.** Machine learning based atom parameterization program for molecular mechanics force fields. *M. Charles, C.L. Brooks*
- COMP 312.** Investigating the role of disulfide bonds in stabilizing the interactions between DNA and the type IV pilin Comp using molecular simulation. *M.N. Fairfield, K. Patel, J.L. Baker*
- COMP 313.** Computational assessment of the molecular structure of pyridyl-amine Pt(II) complexes. *H. Araj, A. Al Dalakta, A. Younis, B. Basil, R. Taleb, B. Wex*
- COMP 314.** Computational NMR characterization of chiral Au₂₅(SMeBu)₁₈⁰. *S. Gelpi Dominguez, J. Gascon*
- COMP 315.** Rapid and accurate binding affinity prediction for GPCR ligands through AMBER GPU accelerated thermodynamic integration. *Y. Hu, I. Mügge*
- COMP 316.** Bound to work better: A guide to use binding kinetics to design more effective drugs for Alzheimer's disease. *F. Bai, H. Jiang, J.N. Onuchic*
- COMP 317.** Improved aromaticity handling and ring perception in RMG to model PAH formation. *M. Liu, W.H. Green*
- COMP 318.** Backbone-breaking alkyl shifts: Anomaly, coincidence, or pattern in sesquiterpene biosynthesis? *N. Guan, D.J. Tantillo, C. Hamann*
- COMP 319.** Dynamics of the gate of DFHBI and ions in riboswitch SPINACH. *N. Miyashita, N. Onishi, M. Furue, T. Shiraki, Y. Yonezawa*
- COMP 320.** Tuning the properties of iron oxide nanomagnetic clusters using first principles based density functional theory. *D.L. Lalsare*
- COMP 321.** Understanding free energy methodologies, force fields and simulation parameters amongst major software packages used in drug discovery. *K. Armacost*
- COMP 322.** Theoretical investigation of the tritium diffusion pathways in γ -LiAlO₂ and Li₂ZrO₃ pellets used in TPBAR. *H.P. Paudel, Y. Duan*
- COMP 323.** Development of the frequency maps for nucleic acids. *Y. Jiang, L. Wang*
- COMP 324.** Efficient kinetic model for studying OLED roll-off. *A.R. Mclsaac, V. Vaissier, N. Geva, H. Weir, T.A. Van Voorhis*
- COMP 325.** Software for conformational searching at IDEAYA Biosciences, Inc. *A.S. Bayden*
- COMP 326.** Computational studies of LiPF₆ salt dissociation in organosilicon nitrile electrolytes. *J. Zhu, L.J. Lyons, H.K. Hernandez-Soto*
- COMP 327.** Simulating the elongation of type IV pili under force using the MARTINI coarse-grained force field. *B.A. Bogin, R. Goncalves, J.L. Baker*
- COMP 328.** Identification of an insect IPP transporter using computational methods. *S.E. Sen, C. Reices, D.A. Schooley*
- COMP 329.** Computational modeling of the outward-facing form and the occluded intermediate of a heme importer with bound nucleotides. *K. Tamura, H. Sugimoto, Y. Shiro, Y. Sugita*
- COMP 330.** High precision free energy database of glycosaminoglycan carbohydrate disaccharides. *D. Martin, E.K. Whitmore, O. Guvench*
- COMP 331.** Computational design of organocatalysts with preorganized catalytic machinery. *Z. Tanyeri, N. Celebi-Olcum*
- COMP 332.** Universal methodology to predict solubility via molecular dynamics simulations of naphthalene. *L. Li, T. Totton, D. Frenkel*
- COMP 333.** Prediction of Stark shift in ketosteroid isomerase via molecular dynamics and quantum mechanic calculations. *A.M. Richard, J. Gascon*
- COMP 334.** First principle study of drug adsorption to the MnO₂ surface. *G. Dey*
- COMP 335.** Band gap and edge engineering of perovskite niobate and tantalate photocatalysts. *G. McClarin, R.F. Berger*
- COMP 336.** *In silico* study of the allosteric effect of sodium ion on dopamine receptor D3R. *Y. Yeh, H. Hsu*
- COMP 337.** Effect of omitting a protecting group at the nitrogen center of a pyrrolidine on the energy profile of the reaction. *T. Stahl, M. Milletti, H.A. Lindsay*
- COMP 338.** Employing machine learning models for high throughput screening of single-site catalyst energetics. *A. Nandy, J. Janet, C. Duan, H.J. Kulik*
- COMP 339.** Computational methodologies for studying the binding affinities of protein-ligand complexes by combining hydration and dynamical effects. *R. Pal, S. Ramsey, P. Cordone, L.B. Wickstrom, T.P. Kurtzman, W. Harding, E. Gallicchio*
- COMP 340.** Exploiting the interplay between exciton transport, energetic disorder and heterogeneous decay. *A. Dodin, A. Willard*
- COMP 341.** Computational studies of regulators of G-proteins signaling small-molecule inhibitors. *M. Mohammadi, H. Vashisth*
- COMP 342.** Exploration of the Humanin- β -amyloid interaction using a combined molecular dynamics and quantum approach. *P. Guttikonda, D. Eskinlisen, B.W. Iwaniec, C. Bilderback, A. Marsh, N. Eadeh, M. Milletti, D. Heyl-Clegg, H. Evans*
- COMP 343.** Selectivity for agonists and blockers of docking-based virtual screening targeting homology models of the β_2 -adrenergic receptor: Impact of the template. *A. Cohen, A. Danfora, M. Biederman, S. Costanzi*
- COMP 344.** Photoinduced electron transfer in cryptochromes: Multi-level approach for robust analysis of charge transfer in biomolecules. *R. Tazhigulov, K.B. Bravaya*
- COMP 345.** Deep neural networks for recognition and transcription of chemical structure images. *J. Staker, K. Marshall, R. Abel, C. McQuaw*
- COMP 346.** DFT a la carte - many-body potentials employing machine learning techniques for water. *T. Nguyen, A.W. Goetz, F. Paesani*

- COMP 347.** Accelerating inorganic discovery with meta-calculation filtering via a decision classifier. *C. Duan, J. Janet, A. Nandy, H.J. Kulik*
- COMP 348.** MetaTox - freely available online resource for the toxicity estimation and evaluation of the metabolic pathways. *A. Rudik, A. Dmitriev, D. Druzhilovskiy, V. Bezhentsev, A. Lagunin, D. Filimonov, V. Porokov*
- COMP 349.** Assessment of quantum mechanical and molecular mechanical methods on free energy decomposition of small molecule complexation. *M. Wang, Z. Yang, H.J. Kulik*
- COMP 350.** Metal-ligand bond strengths of 5D metal complexes. *C. Maulder, T.R. Cundari*
- COMP 351.** Catalytically important remote residues of glycylamide ribonucleotide transferase. *L. Ngu, J. Winters, D. Ray, M. Brady, A. Gaba, L. Makowski, G.A. O'Doherty, M. Ondrechen, P.J. Beuning*
- COMP 352.** Theoretical insights into the mechanisms of aggregation-induced emission in a cyanostilbene derivative. *N. Yamamoto*
- COMP 353.** Toxicity of reactive xenobiotics evaluated with glutathione nucleophilicity. *A. Cavalleri, R. Leth, P. Hunt, M.D. Segall*
- COMP 354.** Computational exploration of double nitrogen doping of 1,2-, 1,3- and 1,4- substitutions in multiple rings of graphene. *N. Alzaqbi, T. Dinadayalane*
- COMP 355.** σ -SCF and HP σ -SCF: A unified approach to both ground and excited mean-field electronic states. *H. Ye, M. Welborn, N. Rieke, T.A. Van Voorhis*
- COMP 356.** Computational prediction and functional annotation of enzymes in the haloacid dehalogenase superfamily. *L.A. Ruffner, P.J. Beuning, M.J. Ondrechen*
- COMP 357.** Generation and selection of protein structures for ensemble docking. *S. Schneider*
- COMP 358.** Refinement of interaction parameters for a poly(ethylene glycol) coarse-grained model in protein-polymer conjugates. *F. Ramezanghorbani, P. Lin, C.M. Colina*
- COMP 359.** DFT study on binding of histidine and proline with graphene in gas and aqueous phases. *D.A. Daggag, T. Dorlus, J. Lazare, T. Dinadayalane*
- COMP 360.** Molecular dynamics simulations of multidrug efflux transport complex AcrAB-TolC embedded in lipid bilayers. *K. Shinoda, H. Fujitani*
- COMP 361.** Functional assignment of Structural Genomics proteins through computed chemical properties, graph representation of active sites, and biochemical validation. *C.L. Mills, R. Garg, J. Lee, R. Parasuram, L. Tian, A. Suci, G. Cooperman, P. Beuning, M. Ondrechen*
- COMP 362.** Molecular dynamics of R-spondin 1: Conformation and druggability analysis. *R.V. Chikhale, K.K. Burusco-Goni, A. Atzori, R.A. Bryce*
- COMP 363.** Deciphering kinase SAR using electrostatics. *S. Sciammetta, R. Scoffin, T. Cheeseright, M.D. Mackey, G. Tedesco*
- COMP 364.** Network of inhibitor diffusion pathways in hydrogenase enzymes. *Y. Liu, M. Mohammadi, H. Vashith*
- COMP 365.** Effect of halogen bond interactions on crystal packing using Hirshfeld surface analysis. *K. Liu, W.T. Pennington, T.W. Hanks*
- COMP 366.** *In silico* fragment screening of the human serotonin transporter. *M. Wasiko, A. Ferreira, P. Witt-Enderby*
- COMP 367.** Hydrophobic effect in molecular dynamics simulations of water/ethanol mixtures using single-site multipole water. *B. Liu, T. Ichiye*
- COMP 368.** Model size and chemical method impact upon accurate TiO₂ surface property prediction. *A.N. Carlson, E.S. Gawalt, J.D. Evanseck*
- COMP 369.** Identifying catalytic features of enzymes to enhance or alter their function. *T.A. Coulther, I.J. Adam, P.J. Beuning, M.J. Ondrechen*
- COMP 370.** Orthogonal approach to computational biomolecular screening: Application to glycoprotein E of Zika virus. *S. Telehany, M. Humby, D. McGee, A. Jacobs, R. Rizzo*
- COMP 371.** eMap: A web application for mapping and visualizing electron/hole transfer channels in proteins. *J.R. Gayvert, R. Tazhigulov, K.B. Bravaya*
- COMP 372.** MechWolf: Programmatic framework for continuous-flow chemical process description, analysis, and automation. *B.D. Lee, A.J. Mijalis, M. Ingram, B.L. Pentelute, N.L. Pohl*
- COMP 373.** Benchmarking density functional theory functional for simulating ground state and excited state properties for highly conjugated Ir(III) organometallic complexes. *L. Lystrom, W. Sun, S.W. Kilina*
- COMP 374.** Computed infrared spectra of ions complexed with silica surfaces. *W. Bosma, M. Ferguson, P.E. Schneider, E.E. Remsen*
- COMP 375.** Characterization of cellulose digesting proteins found in shipworm symbionts. *S. Watson, P.J. Beuning, D.L. Distel, M.J. Ondrechen*
- COMP 376.** RepEx: A scalable, flexible, extensible replica exchange framework. *S. Mushnoori, V. Balasubramanian, S. Jha, M. Dutt*
- COMP 377.** Molecular dynamics and many-body perturbation theory analysis of defects in monolayer germanium monochalcogenides. *A. Cohen, K. Lewis, M. Alaghemandhi*
- COMP 378.** Three dimensional quantitative structure activity relationship studies of anti-tubercular agents as multi-target inhibitors. *K.P. Thaker*
- COMP 379.** Predicting protein-protein binding sites and epitope mapping. *N. Thorsteinson, A. Ajamian*
- COMP 380.** Protocol for the analysis of vibrational circular dichroism spectra of small molecules using Gaussian and MOE. *A. Ajamian*
- COMP 381.** Cyclic disulfide compounds stabilize SOD1 dimers. *J. Winters, D. McDonald, E. Taft, J.N. Agar, R. Manetsch, M.J. Ondrechen*
- COMP 382.** Coarse-grained simulations of aqueous thermoresponsive polyethers. *R. Raubenolt, G. Gyawali, W. Tang, K.S. Wang, S.W. Rick*
- COMP 383.** *In silico, in vitro, in vivo* correlation for CNS penetration. *G. Berellini, G.R. Bhisetti*
- COMP 384.** *Ab initio* studies of magnesium hydroxide nanoparticles as potential catalysts for thermal decomposition of acetic acid. *D.C. Perera, J.C. Rasaiah, J.W. Hewage*
- COMP 385.** Identification of lead compounds of CXCR6 using *in silico* approaches. *I. Salama, S. Sirimulla*
- COMP 386.** Refinement of protocols for *de novo* design and evolution-based refinement for DOCK: Application to fatty acid binding protein. *L.E. Prentis, Y. Zhou, R.C. Rizzo*
- COMP 387.** Atomically resolved simulation studies of RNA/small-molecule interactions. *L. Levintov, H. Vashith*
- COMP 388.** Molecular dynamics simulations of functional arylamide foldamers: Water transport and inter-conversion mechanism of cyclic-arylamide. *R. Delia, V. Pophristic, Z. Liu*
- COMP 389.** Effects of deprotonation of thiol ligands on optical spectra of CdS quantum dots in various solvents. *A. Roberts, L. Lystrom, S.W. Kilina*
- COMP 390.** *In silico* techniques used in the drug discovery of corticotropin-releasing factor receptor 2 (CRHR2). *C. Govea, S. Sirimulla*
- COMP 391.** Binuclear transition metal catalysts for carbon dioxide activation. *A. Dinescu*
- COMP 392.** Study of interactions in the early self-assembly of cyclic phenylalanine-tyrosine dipeptides. *P. Macha, M. Vasudev, M. Mayes*
- COMP 393.** Computational studies of the role of distal residues in human phosphoglucose isomerase catalysis. *S.C. Begay, P.J. Beuning, M.J. Ondrechen*
- COMP 394.** Binding of Na⁺, K⁺, Mg²⁺ and Ca²⁺ with phenylalanine dipeptide: Computational study. *E.A. Alghamdi, T. Dinadayalane*
- COMP 395.** Aromatic oligoamide foldamer for protein-protein interactions: A computational investigation. *O. Vazquez, S. Makeneni, V. Pophristic, Z. Liu*
- COMP 396.** Influence of pore structure on transport in lyotropic liquid crystal membranes. *B. Coscia, M.R. Shirts*
- COMP 397.** OpenDMPK: An open toolkit for the prediction of pharmacokinetic properties. *R. Avila*
- COMP 398.** Stickers and spacers framework for phase transitions of multivalent intrinsically disordered proteins. *J. Choi, R.V. Pappu*
- COMP 399.** Flexible fitting simulations of P-type ATPases to low, medium and high resolution density maps. *M. Kulik, T. Mori, Y. Sugita*
- COMP 400.** Composing structure-activity relationship in metal-organic frameworks: Applications to single-site heterogeneous catalytic hydrolysis of chemical warfare agents. *M. Momeni, C.J. Cramer*
- COMP 401.** Legend of a perfect enzyme: Active site architecture and loop dynamics in triosephosphate isomerase. *D. Petrovic, S.C. Kamerlin*
- COMP 402.** Development of non-adiabatic functionals in real-time TDDFT. *L. Lacombe, N.T. Maitra*
- COMP 403.** Computational study of MOF-supported metal catalysts for ethylene dimerization. *J. Ye*
- COMP 404.** Optimizing genetic manipulation of microbial organisms for production of multiple target chemical compounds. *L. Whitmore, A. George, C.M. Hudson*
- COMP 405.** Probing mesophases and interfaces using Monte Carlo simulations. *M.S. Minkara, J.I. Siepmann*
- COMP 406.** Developing a free energy approach for predicting reversible covalent binding. *Y.L. Luo*
- COMP 407.** Integrate structural information to study the kinetics of protein-protein interactions and protein complex assembly by multiscale modeling. *Y. Wu*
- COMP 408.** Improved binding free energy calculations and enhanced sampling methods. *D.D. Minh*
- COMP 409.** Advancing methodologies and software for quantum dynamics in materials. *A.V. Akimov*
- COMP 410.** GNINA: Deep learning for molecular docking. *D. Koes*
- COMP 411.** Deep learning enhanced quantum dynamics of excitation energy transfer in pigment-protein complexes. *D. Kosenkov*
- COMP 412.** Development of multiscale simulation approaches for catalytic and regulatory mechanisms of protein tyrosine kinases. *K. Nam*
- COMP 413.** FF18SB: Improving the accuracy of biomolecular simulation with a physics-based force field. *C. Tian, A.N. Miguels, Q. Wu, C.L. Simmerling*
- COMP 414.** Pressure-dependent flexibility mechanisms of ambient and deep-sea bacterial dihydrofolate reductases via extended timescale GPU-accelerated simulations. *R. Penhallurick, Q. Huang, T. Ichiye*
- COMP 415.** Elucidating the base interrogation and extrusion mechanisms of the archetypal DNA glycosylase TDG. *T.W. Dodd, I.N. Ivanov*
- COMP 416.** Interfacial behaviors of HEHEHP ligand within biphasic solvents. *A.T. Ta, G.A. Hegde, B.D. Etz, A.G. Baldwin, Y. Yang, J.C. Shafer, M.P. Jensen, C.M. Maupin, S. Vyas*
- COMP 417.** Computational chemistry investigation of aromatic foldamers: Folding propensity, molecular encapsulation and handedness inversion. *P. Reagan, V. Pophristic, Z. Liu*
- COMP 418.** *Ab initio* molecular dynamics and lattice dynamics based force field for modeling hexagonal boron nitride in mechanical and interfacial applications. *A. Govind Rajan, M. Strano, D. Blankschtein*
- COMP 419.** *In silico* study on the activation mechanism of dopamine receptor D3R bound G protein for downstream signal transmission. *Y. Li, H. Hsu*
- COMP 420.** Coupling real-time time-dependent CASSCF with polarizable force field. *H. Liu, X. Li*
- COMP 421.** Efficient constant pH and redox potential molecular dynamics with multidimensional replica exchange simulations. *V.D. Cruzeiro, A.E. Roitberg*
- COMP 422.** Free energy landscape with experiment directed simulations and enhanced sampling. *D.B. Amirkulova*
- COMP 423.** Automated chemical perception for force field parameterization. *C.C. Bannan, C.I. Bayly, M.K. Gilson, L. Wang, M.R. Shirts, J.D. Chodera, D.L. Mobley*
- COMP 424.** Constructing method of virtual compound libraries with enhanced properties. *N. Yasuo, N. Arai, S. Yoshikawa, R. Yoshino, M. Sekijima*
- COMP 425.** Exploration of 1,5-halogen atom transfer reaction through DFT modeling. *C.M. Saunders, F. Gagosz, D. Tantillo*
- COMP 426.** Hybrid peptide materials: Linking molecular architecture to nanostructure characteristics. *S. Mushnoori, K. Schmidt, V. Nanda, M. Dutt*
- COMP 427.** Large-scale exploration of chemical space to identify exceptional molecular targets for optical applications. *M. Afzal, J. Hachmann, C. Cheng*
- COMP 428.** Role of electric field and salt in electrical programming of chitosan-based hydrogels. *C. Tsai, J. Shen*
- COMP 429.** Effects of 2D confinement and Pb-halide bridging molecules on the excited state relaxation of PbSe nanoplatelets (NPL). *M.A. Javed, S. Kilina*
- COMP 430.** Challenge for predicting physicochemical properties of supercritical fluids and compressed liquids: An *ab initio* Effective Fragment Potential ver.2 - MD simulation study. *N. Kuroki, H. Mori*
- COMP 431.** Molecular dynamics simulations reveal structural details on the proofreading mechanism of DNA polymerase III. *T.W. Dodd, I.N. Ivanov*
- COMP 432.** Frags2Drugs: A 3D fragment network to discover new compounds. *C. Bournez, P. Krezel, J. Gally, S. Aci-Sèche, P. Bonnet*
- COMP 433.** Fragment covalent docking (FCD) approach: An innovative *in silico* tools for the prediction of peptide-protein interaction. *J. Diharce, M. Cueto, V. Aucagne, M. Beltramo, P. Bonnet*
- COMP 434.** Designing cyclic-peptide inhibitors of protein-protein interactions by mimicking hot loops. *J. Miao, D. Slough, A. Cummings, F. Fonseca, J. Kritzer, Y. Lin*

COMP

COMP 435. Rational development of HBV capsid assembly modifiers aided by molecular dynamics. **A. Pavlova, L. Bassit, B. Cox, M. Korablyov, C. Chipot, R.F. Schinazi, J. Gumbart**
COMP 436. Prediction of allosteric sites in GPCRs. **A. Wakefield, D.R. Hall, J.S. Mason, S. Vajda, G.M. Keseru**
COMP 437. MD-assisted approach for designing multi-target ligands at A_{2A}R and PDE10A that elevate cyclic AMP. **L. Kalash, I. Winfield, D. Safitri, M. Bermudez, R.C. Glen, G. Ladds, A. Bender**
COMP 438. Computational study of proteins that bind beyond rule-of-five ligands. **M. Egbert, A. Whitty, G.M. Keseru, S. Vajda**

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B1

Wiley Computers in Chemistry Outstanding Postdoc Award

Cosponsored by PROF
M. Cavalleri, C. L. Simmerling, *Organizers*

6:00 – 8:00

COMP 439. Determining differential lignin solvation and structural changes within industrial solvents. **J.V. Vermaas, G. Beckham, M.F. Crowley**
COMP 440. Multipole polarizabilities and dispersion coefficients for gas- and condensed-phase molecules and nanostructures. **K. Lao, R.A. Distasio**

WEDNESDAY MORNING

SECTION A

Westin Boston Waterfront
Adams

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

Y. Han, D. Kilin, S. W. Kilina, *Organizers*
A. V. Akimov, M. Fernandez-Serra, *Presiding*

8:30 COMP 441. Calculating photocatalytic and photovoltaic properties. **G.C. Schatz**

9:10 COMP 442. Excited state dynamics of photoexcited charge carriers in halide perovskites: Time-domain *Ab initio* studies. **O.V. Prezhdo**

9:40 COMP 443. Evaluating photocatalytic active sites as function of polarization, level alignment and spontaneous dissociation of hydroxyl groups at perovskite oxide surfaces. **M. Fernandez-Serra, M. Dawber**

10:10 Intermission.

10:20 COMP 444. Recent developments of DFTB and its applications to photoinduced processes in nanostructures. **T.E. Frauenheim**

11:00 COMP 445. Multiscale characterization of carrier transport in photocatalytic materials: Application to bismuth vanadate BiVO₄. **M. Dupuis, V. Pasumarthi, T. Liu, C. Li**

11:30 COMP 446. *In situ* vibration sum frequency generation spectroscopic probe of molecular structures and dynamics at electrochemical interfaces. **T. Lian**

12:00 COMP 447. Modeling nonadiabatic dynamics in energy materials. **A.V. Akimov**

SECTION B

Westin Boston Waterfront
Faneuil

Drug Design

Novel Methods for Docking & Scoring

M. R. Landon, Y. Tseng, *Organizers*
B. Radak, *Presiding*

8:30 COMP 448. Fast, accurate X-ray density-driven ligand docking on the free energy surface using the MovableType method coupled with QM/MM X-ray refinement. **L. Westerhoff, O. Borbulevych, Z. Zheng, N. Bansal, K.M. Merz**

8:55 COMP 449. Improving reliability of ensemble docking through automated ensemble selection and protein reorganization energy estimation. **O. Pierce, S.V. Jerome, M. Repasky**

9:20 COMP 450. Challenges and opportunities for GPU-enabled shape screening of large scale, synthetically tractable compound libraries. **C. Von Bargen, S. Dixon, R. Annabhimoju, M. Repasky**

9:45 COMP 451. Virtual screening, de novo design, and evolution-based searching with DOCK. **R.C. Rizzo**

10:10 Intermission.

10:25 COMP 452. Almost first principle prediction of biomembrane permeabilities with COSMOperm. **A. Klamt, J. Schwöbel**

10:50 COMP 453. MolAlign: A powerful algorithm for aligning multiple small molecules. **S.L. Chan**

11:15 COMP 454. Automatic generation of high quality 3D matched molecular pairs. **E.S. Ehmki, M. Rarey**

11:40 COMP 455. Going beyond REALspace: Synthetic access to the chemical universe. **C. Detering**

SECTION C

Westin Boston Waterfront
Alcott

Revolutionizing Chemistry with Artificial Intelligence

AI for Molecular Simulations

P. Das, R. K. Das, O. Isayev, *Organizers, Presiding*

8:30 COMP 456. Matter simulation (R)evolution. **A. Aspuru-Guzik**

8:55 COMP 457. Recruiting machine learning methods for molecular simulations of proteins. **D. Shukla**

9:15 COMP 458. Unsupervised machine learning for data-driven representations of reactions. **S. Srimala, R.H. West**

9:30 COMP 459. Deep learning efficient representations of chemical concepts and quantum chemistry. **M. Matlock, N.L. Dang, S. Swamidass**

9:50 Intermission.

10:05 COMP 460. Fast, accurate, automated small molecule force field parameterization by machine learning. **G. De Fabritiis**

10:25 COMP 461. Bespoke parameterization of DPD force fields via Bayesian optimization. **J.L. McDonagh, A. Shkurti, D. Bray, R.L. Anderson, M.A. Johnston, W.C. Swape, E. Pyzer-Knapp**

10:45 COMP 462. Initial steps towards computer-generated rate constants: Rate constants for the reactions of isobutane with H and CH₃ with shock tube experiments and the method of uncertainty minimization using polynomial chaos expansions (MUM-PCE). **L.A. Mertens, I. Awan, J.A. Manion**

11:00 COMP 463. Hybrid 2D/3D/MD QSAR models of kinase inhibitors based on molecular dynamics trajectories and machine learning techniques. **D. Fourches**

SECTION D

Westin Boston Waterfront
Douglass

Molecular Mechanics: Computational Studies of Membranes & Transmembrane Channels & Transporters

M. Feig, J. Shen, *Organizers*

J. V. Vermaas, *Presiding*

8:30 COMP 464. Protonation states and ion binding in Na⁺/K⁺-ATPase studied by constant-pH MD. **B. Radak, H. Rui, J. Thirman, W. Jiang, B. Roux**

9:00 COMP 465. Likely role of hydrophobic gating in BK channels. **M. Yazdani, Z. Jia, G. Zhang, c. Jianmin, J. Chen**

9:30 COMP 466. Force transduction and anchoring of the mechanosensitive channel MscL to lipid membrane through charged interactions. **J.M. Vanegas, R. Rajeshwar, M. Arroyo**

10:00 COMP 467. Understanding permeability and selectivity in sub-nm pore-size synthetic water transport channels. **D.R. Barden, H. Vashisth**

10:30 Intermission.

10:50 COMP 468. Temperature sensor in bacterial porins. **M. Ceccarelli, S. Acosta-Gutierrez, I. Bodrenko**

11:20 COMP 469. Insights on small molecular permeation and gating functions of Connexin26 hemichannels. **H. Zhang, W.M. Botello-Smith, P. Chatterjee, P.W. Chang, Y.L. Luo**

SECTION E

Westin Boston Waterfront
Paine

Quantum Mechanics

H. P. Hratchian, *Organizer*

K. Lao, *Presiding*

8:30 COMP 470. Computational study of the Criegee intermediate through ozonolysis reaction of sabinene. **M. Almatrneh**

8:55 COMP 471. DFT study on cation- π interactions of Li⁺, Na⁺ and K⁺ with two benzene rings connected through linear chains. **T. Dinadayalane, N. Alshamrani**

9:20 COMP 472. Halogen bonding interactions: Revised benchmarks and a new assessment of exchange vs dispersion. **B.M. Wong, L.N. Anderson, F. Aquino, A.E. Raeber, X. Chen**

9:50 COMP 473. C-H bond activation catalyst elucidation and improvement. **E.N. Brothers, D. Ninkovic, S.D. Zaric, M.B. Hall**

10:20 Intermission.

10:40 COMP 474. Lignin intermediates on the Pd surface: Effect of coverage. **P. Srita, J.S. Samec, P. Broqvist, K. Hermansson**

11:00 COMP 475. Quantum mechanical modeling of energy conversion in nanoscale. **Y. Zhang**

11:25 COMP 476. CANDLE: Complementary approach to solving cyclic peptide conformations using chemical shifts. **N. Nguyen, J. Schworchert, D. Tantillo, S. Lokey**

11:50 COMP 477. Efficient estimation of formation enthalpies for organic compounds with local coupled-cluster methods. **A. Kazakov, E. Paulechka**

Materials in Extreme Environments

Frontiers of Theory & Experiment for Creating & Probing Materials in Extreme Environments

Sponsored by PHYS, Cosponsored by COMP

WEDNESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Adams

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

D. Kilin, S. W. Kilina, *Organizers*

Y. Han, *Organizer, Presiding*

J. P. Lewis, *Presiding*

1:30 COMP 478. Electron-initiated photochemistry: Molecular ionization, excitation, and reactions. **K.K. Irikura**

2:00 COMP 479. Role of density functional theory in interpreting photochemistry of metal-organic species. **M.T. Berry, P.S. May, Y. Han**

2:30 COMP 480. Controlling the fluorine-contained photofragments formation in Ln(hfac)₃ with fs laser dissociative ionization. **J. Chen, H.A. Rabitz**

2:45 COMP 481. Modeling chemical reactions in protic solvents. **N. Govindarajan, E. Meijer**

3:15 Intermission.

3:30 COMP 482. Structural and spectroscopic characterization of interfaces between photo-absorbers, water and catalysts: First principles calculations. **G.A. Galli**

4:00 COMP 483. Controlling energy flow in plasmonic photocatalysis through the design of hybrid plasmonic nanostructures. **S. Lincic**

4:30 COMP 484. Machine-learning approaches to rationally designed bimetallic nanoparticles and nanoparticles at the interface. **J.P. Lewis**

5:00 COMP 485. Modulating binding modes of Ir dual atom catalysts by metal-substrate interatomic matching and its application to solar water splitting. **K. Yang, Y. Zhao, X. Yan, S. Cao, K. Materna, X. Pan, M. Flytzani-Stephanopoulos, G.W. Brudvig, D. Wang, V.S. Batista**

5:15 COMP 486. Studies of PCET in natural and artificial photosynthesis. **V.S. Batista**

SECTION B

Westin Boston Waterfront
Faneuil

Drug Design

Free Energy Calculations in Drug Discovery

M. R. Landon, Y. Tseng, *Organizers*

A. K. Gupta, *Presiding*

1:30 COMP 487. Accurate calculation of relative binding free energies between ligands with different net charges. **W. Chen, Y. Deng, E. Russell, A. Clark, J.L. Knight, R. Abel, L. Wang**

1:55 COMP 488. Simulation of competition experiments in order to predict relative binding affinities of drug-like molecules. **H. Gunaydin**

2:20 COMP 489. Resolving the ligand binding specificity in c-MYC G-quadruplex DNA: Absolute binding free energy calculations and SPR experiment. **N. Deng, L. Wickstrom, C. Lin, P. Cieplak, D. Yang**

2:45 Intermission.

3:00 COMP 490. Increasing binding affinity of Gd@C₈₂(OH)₂₂ for human MMP-9 by mutation of a surface functional group. **S.H. Chen, S. Kang, J. Luo, R. Zhou**

3:25 COMP 491. Computational approach to the regulation of protein-protein interactions by molecular tweezers. **K. Bravo-Rodriguez, S. Mittal, E. Sanchez-Garcia**

3:50 COMP 492. Exploring protein-ligand interactions using molecules-in-molecules (MIM) fragment-based approach. **B. Thapa, D. Beckett, K. Raghavachari**

4:15 COMP 493. Movable type – potential of mean force method applied to the protein-ligand binding study. *Z. Zheng, L. Westerhoff, K.M. Merz*

SECTION C

Westin Boston Waterfront
Alcott

Revolutionizing Chemistry with Artificial Intelligence

AI-Assisted Material Discovery & Characterization

P. Das, R. K. Das, O. Isayev, *Organizers, Presiding*

1:30 COMP 494. Robogenic chemistry. *S. Mcananama-Breton, M. Segler, M. Waller*

1:55 COMP 495. Integration of machine-learned surrogate models in first principles inorganic material design. *J. Janet, A. Nandy, C. Duan, H.J. Kulik*

2:15 COMP 496. Are machines smarter than human chemists, or only less biased? The unreasonable effectiveness of random experiments. *J. Schrier*

2:35 COMP 497. Self-evolving machine: A continuously improved model for molecular thermochemistry. *Y. Li, K. Han, W.H. Green*

2:50 COMP 498. Machine learning across the periodic table. *M. Willatt*

3:10 Intermission.

3:25 COMP 499. ANI strikes again. New results from a grown-up machine learning method for organic systems. *J.S. Smith, O. Isayev, A.E. Roitberg*

3:45 COMP 500. Pushing the frontiers of materials modeling and discovery with machine learning. *S. Sankaranarayanan*

4:05 COMP 501. Polymer genome: A polymer informatics paradigm for accelerated property prediction. *A. Chandrasekaran, C. Kim, R. Ramprasad*

4:20 COMP 502. Revolutionizing molecular modeling with machine learning. *J. Hochmann*

SECTION D

Westin Boston Waterfront
Douglass

Molecular Mechanics

Advanced Simulation Techniques

M. Feig, *Organizer*

D. Ghoreishi, *Presiding*

1:30 COMP 503. QM/MM in GENESIS: Applications to anharmonic vibrational analysis of biomolecules. *K. Yagi, Y. Sugita*

2:00 COMP 504. Chebyshev interaction model for efficient simulations (ChIMES): Rapidly parameterizable force fields for quantum-accurate reactive simulation. *R.K. Lindsey, L.E. Fried, N. Goldman*

2:30 COMP 505. Vibrational modes, phonons, and atomic relaxation in diffusion Monte Carlo. *Y. Liu, B. Andrews, G. Conduit*

3:00 COMP 506. Chemically relevant conformation clustering: Applications to reaction exploration and calculation of spectra. *K. Ermanis, J.M. Goodman*

3:30 Intermission.

3:50 COMP 507. Finding multiple reaction pathways via global optimization of action. *J. Lee, B. Brooks*

4:20 COMP 508. Conformational kinetic analysis of replica exchange MD using coarse master equations. *N. Buchete, B. Brooks, B. Narayan, C. Herbert*

4:50 COMP 509. Multiscale enhanced sampling of intrinsically disordered protein conformations. *X. Liu, J. Chen*

SECTION E

Westin Boston Waterfront
Paine

Quantum Mechanics

H. P. Hratchian, *Organizer*

R. M. Richard, *Presiding*

1:30 COMP 510. Beyond Kohn-Sham approximation: Hybrid wave function and multistate density functional theory (MSDFT) for ground and excited states. *J. Gao*

2:00 COMP 511. Separating quantum and classical uncertainty in open systems enables the systematic generalization of classical tools. *A. Dadin, A. Willard*

2:20 COMP 512. Polarizable QM/MM for excited-state dynamics. *W.J. Glover*

2:45 COMP 513. Revealing the quantum mechanical nature of proteins through *ab initio* molecular dynamics. *Z. Yang, H.J. Kulik*

3:10 Intermission.

3:30 COMP 514. Accurate modeling of absorption lineshapes of solvated dyes. *T.J. Zuehlsdorff, C. Isborn*

3:55 COMP 515. Validation and metric of convergence for exact diatomic-in-molecules (DIM) calculations. *S.L. Fiedler*

4:20 COMP 516. Beyond the single point energies: Incorporating the correlation consistent composite approach to the energy derivatives. *Y. Jin, A.K. Wilson*

4:45 COMP 517. Using explicitly correlated and standard CCSD(T) for high-accuracy theoretical thermochemistry. *B. Welch, R. Dawes*

Materials in Extreme Environments

Electrides

Sponsored by PHYS, Cosponsored by COMP

WEDNESDAY EVENING

Computational Methods for Lanthanides and Actinides: Theory & Applications

Sponsored by NUCL, Cosponsored by COMP

THURSDAY MORNING

SECTION A

Westin Boston Waterfront
Adams

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

Y. Han, D. Kilin, S. W. Kilina, *Organizers*

E. Jakubikova, S. Jensen, *Presiding*

8:30 COMP 518. Cerium metal-organic frameworks and high local exchange density functionals for photocatalysis. *X. Wu, P. Verma, S. Huang, L. Gagliardi, D.G. Truhlar*

9:00 COMP 519. Ligand-free, isolated gold nanoparticles in metal-organic framework materials. *S. Jensen, T. Thonhouser*

9:30 COMP 520. Understanding the electrochemical reduction of carbon dioxide at copper surfaces. *D. Ren, M. Graetzel*

10:00 COMP 521. Modeling metallorganic hole transporting materials for solid-state dye-sensitized solar cells. *S. Fantacci*

10:15 Intermission.

10:30 COMP 522. Interfacial electron transfer in Fe(II) chromophore-TiO₂ assemblies: Importance of conformational sampling. *E. Jakubikova*

11:00 COMP 523. Accurate computation of the spin state energetics of transition metal complexes. Role of exchange-correlation functional, scalar-relativistic effects and solvent effects: Application to methane-to-methanol conversion catalysis. *N.K. Dandu, O. Adeyiga, D. Panthi, S.O. Odoh*

11:30 COMP 524. Tuning the photophysical properties of monocationic iridium(III) complexes by varying the site of benzannulation on diimine or cyclometalating ligands: A combined experimental and theoretical study. *W. Sun, B. Liu, L. Lystrom, S. Kilina*

12:00 COMP 525. Photophysics of transition metal-based chromophores: Fundamental issues and applications. *J.K. McCusker*

SECTION B

Westin Boston Waterfront
Faneuil

Drug Design

Machine Learning & Off-Target Prediction

M. R. Landon, Y. Tseng, *Organizers*

S. Das, R. Maji, *Presiding*

8:30 COMP 526. Applications of multi-class machine learning models to drug design. *M. Waldman, M.S. Lawless, P.R. Daga, R.D. Clark*

8:55 COMP 527. GPGPU enhanced binding site similarity determination. *M. Repasky, V. Babin, J. Shelley*

9:20 COMP 528. Structure-based searching of chemical space with Pharmit. *D. Koes*

9:45 COMP 529. Facilitating intelligent HIV drug design with assay central. *K.M. Zorn, T. Lane, A. Clark, S. Ekins, V. Makarov, A. Garzino-Demo*

10:10 Intermission.

10:35 COMP 530. Riding the waves of PPI-network perturbations to predict phenotypic assay outcome. *G. Zahoranszky-Kohalmi, R. Guha, M.G. Cyr, M. Henderson, S. Fang, A. Zakharov*

11:00 COMP 531. Retrospective study to assess selectivity among phosphodiesterases (PDE's) families using FEP+. *F. Moraca, A. Negri*

11:25 COMP 532. Computational selectivity modelling for bromodomains: Insights into selectivity and discovery of new small-molecule hits. *K. Giblin, S. Hughes, H. Boyd, P. Hansson, R. Sheppard, T. Hayhow, A. Bender*

SECTION C

Westin Boston Waterfront
Alcott

Material Science

C. M. Aikens, *Organizer*

R. S. Singh, *Presiding*

8:30 COMP 533. Negative isotope effect for carrier mobility in organic semiconductors: Natural manifestation of quantum nuclear tunneling effect. *Z. Shuai*

8:55 COMP 534. Circular-donor/fullerene type architecture for organic semiconductor applications. *O. Kocak, I. Duru, I. Yavuz*

9:20 COMP 535. Design of single molecule diodes: Using quantum interference to tune molecular rectification. *J.L. Palma, J. Valdiviezo, J. Showman, A. Polakovsky*

9:45 COMP 536. Static and dynamic energetic disorder in OLED materials. *P. de Silva, T.A. Van Voorhis*

10:10 Intermission.

10:30 COMP 537. Modular allyl framework for electrochromic switches. *C.B. Rinderspacher, J.M. Elward, R.H. Lambeth*

10:55 COMP 538. Periodic DFT calculations for predicting structures, properties and reactivity of organic and metal-organic materials. *M. Arhangelskis, R. Tran, A.D. Katsenis, P. Hindle, F. Topic, A.J. Morris, T. Frisic*

11:20 COMP 539. CrystaLattE: Automated computation of benchmark-level lattice energies of molecular crystals. *C.H. Borca, B.W. Bakr, L.A. Burns, C.D. Sherrill*

SECTION D

Westin Boston Waterfront
Douglass

Molecular Mechanics

Biological Macromolecules in Action

M. Feig, *Organizer*

G. Chong, *Presiding*

8:30 COMP 540. Hsp70 substrate binding selectivity physical origins revealed by combining sparse data sources using machine learning. *C. English, J. Chen, W. Sherman, L.M. Gierasch*

9:00 COMP 541. Anomalous effects of velocity rescaling algorithms: The flying ice cube effect revisited. *E. Braun, M.S. Moosavi, B. Smit*

9:30 COMP 542. Mechanism of the G-protein mimetic nanobody binding to a muscarinic G-protein-coupled receptor. *Y. Miao, J. McCammon*

10:00 COMP 543. Formation of an activated CRISPR-Cas9 by "sensing", "regulating" and "locking" the catalytic HNH domain. *G. Palermo, C. Gravina Ricci, I. Rivalta, M. Jinek, V.S. Batista, J. McCammon*

10:30 Intermission.

10:50 COMP 544. Base-flipping dynamics from an intrahelical to an extrahelical state exerted by thymine DNA glycosylase during DNA repair process. *L. Da*

11:20 COMP 545. Using current-flow betweenness scheme to capture mutation induced disruption of protein allosteric regulation. *W.M. Botello-Smith, Y.L. Luo*

11:50 COMP 546. Elucidating allosteric communications in proteins with dynamical contact network analysis. *X. Yao, M. Mamin, D. Hamelberg*

SECTION E

Westin Boston Waterfront
Paine

Quantum Mechanics

H. P. Hratchian, *Organizer*

Z. Yang, *Presiding*

8:30 COMP 547. Assessing performance of the "B05" density functional with regards to charge transfer and density accuracy. *S.G. Dale, E.R. Johnson, A.D. Becke*

8:55 COMP 548. Multipole polarizabilities at the linear response coupled cluster level. *K. Lao, J. Jia, C. Gladue, P. Csernica, R.A. Distasio*

9:20 COMP 549. Leveraging NWChemEx's computational chemistry app store to design an exascale SCF. *R.M. Richard, T.H. Dunning, R.J. Harrison, T.L. Windus*

9:45 COMP 550. Pair density functional theory description of dynamical electron correlation in variational two-electron reduced-density-matrix-driven complete active space self-consistent field methods. *M. Mostafaejad, A.E. DePrince*

10:05 Intermission.

10:25 COMP 551. Coupled cluster theory for quantum many-body systems at finite temperature. *A. White, G. Chan*

COMP/ENFL

10:50 COMP 552. Deterministic quantum chemistry of the uniform electron gas: An adaptive sampling configuration interaction (ASCI) approach. *D. Hait, N.M. Tubman, D.S. Levine, M.P. Head-Gordon*

11:10 COMP 553. Incremental embedding: A density matrix embedding scheme for molecules. *H. Ye, M. Welborn, N. Rieke, T.A. Van Voorhis*

11:30 COMP 554. Multiconfigurational wave function methods for periodic systems via density matrix embedding theory. *H.Q. Pham, L. Gagliardi*

Materials in Extreme Environments

Extreme Chemistry of Planetary Interiors

Sponsored by PHYS, Cosponsored by COMP

THURSDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Adams

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Cosponsored by PHYS

Y. Han, S. W. Kilina, *Organizers*
D. Kilin, *Organizer, Presiding*
S. Huang, B. Rasulev, *Presiding*

1:30 COMP 555. Formation and structure of black TiO₂: Insights from first principles simulations. *X. Zhao, S. Selcuk, A. Selloni*

2:10 COMP 556. *Ab initio* constant temperature molecular dynamics of liquid-solid interfaces. *H. Metiu, H.H. Kristoffersen*

2:40 COMP 557. Nonradiative relaxation dynamics of surface functionalized and doped anatase TiO₂ nanowire. *S. Huang, D. Kilin*

3:10 Intermission.

3:25 COMP 558. Excitonic states and charge transfer at polar boundaries involving π -conjugated systems. *H. Lischka, M. Barbatti*

3:55 COMP 559. Modeling of photooxidative degradation of aromatics in water matrix: A computational mechanistic and statistical models. *B. Rasulev, D. Juretic, H. Kusic, D.D. Dionysiou, A. Loncaric Bozic*

4:10 COMP 560. Simulating charge separation and electron transfer in heterogeneous environments: The case study of cryptochrome protein. *K.B. Bravaya*

4:25 COMP 561. Unique adsorption behaviors of NO and O₂ at hydrogenated anatase TiO₂(101) and the implication on surface photo-activities. *F. Li, W. Huang, X. Gong*

4:40 COMP 562. Towards understanding the relation between single-site photocatalytic centers and transition metal oxide defect sites in the photocatalytic transformation of small molecules. *L.M. Thompson*

4:55 COMP 563. Characterization of conical intersections in CsPbBr₃ perovskite surface models. *M.P. Esch, B.G. Levine*

5:10 COMP 564. Water oxidation chemistry of oxynitrides and oxides: Comparing NaTaO₃ and SrTaO₂N. *H. Ouhbi, U. Aschauer*

5:25 Concluding Remarks.

SECTION B

Westin Boston Waterfront
Faneuil

Drug Design

Application of Mixed Methods for CADD

M. R. Landon, Y. Tseng, *Organizers*
S. H. Chen, *Presiding*

1:30 COMP 565. Structural implications of hinge D/E switching in the human kinome. *A.J. Campbell, J.R. Sacher, M. Weiwer, J.P. Gale, Y. Zhang, P.A. Clemons, S. Gill, E. Scolnick, J.Q. Pan, E.B. Holson, F.F. Wagner*

1:55 COMP 566. Successful application of ensemble-based, multi-target hierarchical virtual screening approach to discover novel allosteric KRAS inhibitor validated through experiments. *A.K. Gupta, C.V. Pagba, P.S. Srivastava, S. Sarkar-Banerjee, W. Xu, J.F. Hancock, J.A. Putkey, A. Gorfe*

2:20 COMP 567. Ligand efficacies at a GPCR: Computational and biochemical studies in the case of leukotriene B₄ receptor 2 (BLT2). *A. Cho*

2:45 Intermission.

3:00 COMP 568. Structural insights towards the design of potent anti-HIV inhibitors. *D. Das*

3:25 COMP 569. *In silico* prediction of β -lactamase hydrolysis efficiency: Finding the right balance between kinetic and thermodynamic terms. *A. Zavala, S. Oueslati, E. Selwa, E. Elisée, T. Naas, B.I. Iorga*

3:50 COMP 570. Molecular dynamics and quantum mechanics analyses of the binding of covalent inhibitor ETX2514 and other analogs to class D β -lactamase OXA-24. *C. Velez Vega, T. Durand-Reville, R.A. Tommasi*

4:15 COMP 571. Identifying inhibitors for lipolytic enzymes: A step towards the development of anti-inflammatory agents. *V. Mouchlis, J. McCammon, E.A. Dennis*

SECTION C

Westin Boston Waterfront
Alcott

Material Science

C. M. Aikens, *Organizer*
S. Das, *Presiding*

2:20 COMP 572. Theoretical investigations of the defect chemistry and tritium diffusivity properties in γ -LiAlO₂ pellets. *H.P. Paudel, Y. Lee, D. Soreacu, Y. Duan*

2:45 COMP 573. Predicting the effects of compositional tuning on complex metal oxide dissolution. *S.E. Mason*

3:10 Intermission.

3:30 COMP 574. Role of molybdenum oxysulfide rings in the growth of MoS₂ from sulfurization of MoO₃. *T. Tsafack, S.F. Bartolucci, J.A. Maurer*

3:55 COMP 575. First-principles study of redox reactions in all-vanadium redox flow batteries. *Z. Jiang, K. Klyukin, V. Alexandrov*

4:20 COMP 576. Theoretical simulation of dehydration of natural gas using MOFs and zeolite molecular sieve composite membrane. *Q. Song*

4:45 COMP 577. Two-dimensional materials: Insights from theory. *J. Wang*

SECTION D

Westin Boston Waterfront
Douglass

Molecular Mechanics

It's All About Interactions

M. Feig, *Organizer*
V. D. Cruzeiro, *Presiding*

1:30 COMP 578. Urea-aromatic interactions: Protein unfolding to urea transporters. *S. Goyal, A. Chattopadhyay, K. Kasavajhala, U. Priyakumar*

2:00 COMP 579. Excipient-protein interactions for enhancing the stability of protein-based therapeutics using the site identification by ligand competitive saturation technology. *S. Ja, S.K. Lakkaraju, W. Yu, A.D. Mackerell*

2:30 COMP 580. How do hydrophobic surfaces modulate the conformational equilibria of protein backbones? *A. Bhattacharya*

3:00 Intermission.

3:20 COMP 581. Conformational impact on amino acid-surface π - π interactions on a (7,7) single-walled carbon nanotube: A molecular mechanics approach. *L. Grabill*

3:50 COMP 582. Computational approaches for investigating adhesion phenomena at organic-inorganic interface. *K. Min, A. Rammohan, H. Lee, J. Shin, S. Lee, S. Goyal, H. Park, J. Mauro, R. Stewart, V. Botu, H. Kim, E. Cho*

Computational Methods for Lanthanides and Actinides: Theory & Applications

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Materials in Extreme Environments

Light Elements & Hydrides

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ENFL

Division of Energy and Fuels

J. Liu, *Program Chair*

SOCIAL EVENTS:

Breakfast, 7:00 AM: Sun
Dinner, 7:00 PM: Sun
Dinner, 6:00 PM: Tue

BUSINESS MEETINGS:

Business Meeting, 12:00 PM: Mon

SUNDAY MORNING

SECTION A

Renaissance Boston Waterfront
Spectacle

2D Materials: Innovative Materials & Devices for Energy & Fuels

V. Barone, L. Hu, Y. Lin, *Organizers*
Z. Wu, Y. Zhu, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 1. Critical role of ultrathin graphene films with tunable thickness in enabling highly stable sodium metal anodes. *H. Wang*

8:15 ENFL 2. Two-dimensional materials for electrocatalytic water splitting. *J. Wang*

8:30 ENFL 3. Facile synthesis of 2D molybdenum carbide nanosheets. *W.P. Mounfield, Y. Shao-Horn, Y. Roman-Leshkov*

8:45 ENFL 4. Catalytic hydrogenation of nitrobenzene via intrinsic holey graphene nanoplatelets with rich zigzag edges. *K. Savaram, M. Li, K. Tajima, K. Takai, T. Hayashi, E.L. Garfunkel, V. Osipov, N. Ma, H. He*

9:00 ENFL 5. Heavy metal, semiconductor, and semi-metal atomic intercalation for chemically tunable 2D materials. *K.J. Koski*

9:15 ENFL 6. Defect engineering of liquid phase exfoliated 2D semiconductor WSe₂ nanoflakes for solar fuel generation. *K.A. Sivala*

9:30 Intermission.

9:45 ENFL 7. Holey graphene air cathodes for high capacity rechargeable lithium air batteries. *Y. Lin, J. Kim, J.W. Connell*

10:10 ENFL 8. From electronic structure to electrochemical applications of 2D materials. *Y. Liu*

10:25 ENFL 9. Role of structural hydroxyl groups in enhancing performance of electrochemically-synthesized bilayer V₂O₅. *S. Tepavcevic, J. Connell, P. Papa Lopes, M. Bachhav, B. Key, E. Crumlin, N.M. Markovic*

10:40 ENFL 10. Exploration of copper-reduced graphene oxide core-shell nanowire films as transparent electrodes for high-performance suspended particle devices. *S. Huang, F. Ren, D. Ma*

10:55 ENFL 11. Generalized 3D printing of graphene-based mixed-dimensional hybrid aerogels. *T. Xingwei, H. Zhou, T. Fan*

11:10 ENFL 12. Modeling of electrode materials with density functional theory. *V. Barone*

11:35 Concluding Remarks.

SECTION B

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon A

Carbon Dioxide Conversion & Artificial Photosynthesis

H. Lin, *Organizer*
F. Jiao, *Organizer, Presiding*
H. Wang, *Presiding*

7:55 Introductory Remarks.

8:00 ENFL 13. Photocatalyst for the conversion of CO₂ to CO based on the [XMnbp(CO)₅] system. *A.B. Bocarsly, H. Kuo, S.E. Tignor*

8:40 ENFL 14. Biomimetic construction of artificial diatoms with multiscale architectures for CO₂ photo-reduction. *H. Zhou, T. Fan, D. Zhang*

9:10 ENFL 15. Wavelength dependence on photocatalytic carbon dioxide reaction with methanol over nanostructured cobalt catalyst. *K. Davies, D.K. Ryan*

9:35 ENFL 16. Efficient assembly of light absorber-catalyst for photocatalytic CO₂ reduction using perfluorosulfonate polymer. *S. Lee, S. Kim, A. Bokare, G. Moon, W. Kim, W. Choi*

10:00 Intermission.

10:15 ENFL 17. Incorporation of molecular diodes into ruthenium photocatalytic systems. *D.J. Boston, T. Finley, C. Sparks*

10:40 ENFL 18. Nickel phosphides: A new family of catalysts for energy-efficient electrochemical CO₂ reduction to C₃ and C₄ products. *K.U. Calvinho, G.C. Dismukes, A.B. Laursen, K.M. Yap*

11:05 ENFL 19. Electrochemical reduction of carbon dioxide to fuel using ZnO-CuO nanocomposite. *K. Malik, A. Verma*

11:30 ENFL 20. Selective electrochemical reduction of CO₂ to ethylene on nanopores modified copper electrodes in aqueous solution. *Y. Peng*

SECTION C

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon D

Innovative Nanomaterials Used in Solar EnergyY. H. Hu, R. T. Koodali, *Organizers*W. Wei, *Organizer, Presiding*H. Zhou, *Presiding***7:55** Introductory Remarks.**8:00 ENFL 21.** Advanced electrode materials for 3rd generation solar cells. *Y.H. Hu***8:40 ENFL 22.** Recent advances in TiO₂ nanostructures as photoanode for highly optimized dye-sensitized solar cells. *H. Javed, W. Que***9:00 ENFL 23.** Amplified light energy conversion at TiO₂ photonic crystals sensitized with Q-CdTe modified with selenide: Effects of light trapping and selenide treatment. *N. Beydoun, R. Farhat, L.I. Halaoui***9:20 ENFL 24.** Charge separation in nonpolar media: Carrier mobility of conjugated polymers in the presence of counterions. *J.H. Burke, M.J. Bird, J.R. Miller***9:40 ENFL 25.** All-solution fabrication process of nanostructured WO₃/BiVO₄ heterojunction with catalyst for efficient solar water splitting. *B. Lee, M. Lee, H. Park, T. Lee, H. Jang***10:00** Intermission.**10:10 ENFL 26.** Solar energy conversion and utilization systems via 3D printing technique. *H. Zhou, T. Fan, D. Zhang***10:40 ENFL 27.** Nano-scale origins of interfacial photocatalytic enhancement in ZnS/GaP multilayer films. *P. Musavigharavi, L. Xie, C. Park, Y. Hau Ng, J. He, J. Hart, N. Valanoor***11:00 ENFL 28.** Efficient photoreduction of bicarbonate to formate catalyzed by gold-TiO₂ composite nanocatalyst under solar irradiation. *H. Pan, S. Chowdhury, M.D. Heagy***11:20** Concluding Remarks.**SECTION D***Renaissance Boston Waterfront**Pacific Grand Ballroom Salon E***Innovative Materials & Integrated Pathways for Sustainable Energy & Resource Production**T. Allen, G. Gadikota, *Organizers, Presiding***7:55** Introductory Remarks.**8:00 ENFL 29.** Iodine-treated metal-organic framework: Facile synthesis and a highly efficient amorphous catalyst toward oxygen reduction. *B. Chen***8:30 ENFL 30.** Synthesis, characterization, and modeling of new piperidinium based ionic liquid electrolytes. *J. Chapman Varela, A. Hino, K. Sankar, D. Coker, M.W. Grinstaff***9:00 ENFL 31.** Methylene blue-containing wastewater for energy storage. *M.A. Kosswataarachi, T.R. Cook***9:30 ENFL 32.** Carbon-based nano-composites for energy storage and conversion: Architecture design and *in-situ* synthesis. *Y. Lin, M. Han, S. Xiang***10:00** Intermission.**10:15 ENFL 33.** H₂ generation from H₂S via an iodine thermochemical cycle. *R. Gillis, P. Lolur, W.H. Green***10:45 ENFL 34.** Polymethacrylamide and carbon composites that grow, strengthen and self-repair using ambient carbon dioxide fixation. *S. Kwak, J. Giraldo, T. Lew, M. Wong, P. Liu, Y. Yang, V. Koman, M. McGee, B.D. Olsen, M. Strano***11:15 ENFL 35.** Biogas upgrading to biomethane: Regenerable amine-modified materials for carbon dioxide separation. *Y. Meng, J. Jiang, Y. Gao, Q. Zou, M. Yang, Y. Xu***11:45** Concluding Remarks.**SECTION E***Renaissance Boston Waterfront**Pacific Grand Ballroom Salon B***USA-China Symposium on Energy****Storage**Y. H. Hu, *Organizer*F. Jin, X. Wang, *Organizers, Presiding*Z. Yao, *Presiding***8:25 ENFL 36.** CO₂ utilization and storage via chemically enhanced carbon mineralization of silicate minerals and alkaline industrial wastes. *G. Rim, C. Zhou, A.A. Park***9:00 ENFL 37.** One-dimensional nanomaterials for emerging energy storage. *L. Mai***9:35 ENFL 38.** Two-dimensional early transition metal carbides (MXenes) for energy storage applications. *Y. Dall'Agnese, Y. Gao, Y. Gogotsi***10:10** Intermission.**10:20 ENFL 39.** Phosphorus-based nanomaterials for energy applications. *H. Ji***10:55 ENFL 40.** Thermal and spectroscopic analysis of porous-organic framework interactions with simple chemical species. *E. Borguet***11:20 ENFL 41.** Enabling energy storage devices through chemical vapor deposition fabrication approaches. *K.K. Lau***SECTION F***Renaissance Boston Waterfront**Pacific Grand Ballroom Salon C***Battery Technology: Vehicle to Grid****Flow & Aqueous Batteries**W. Liu, *Organizer*N. Liu, *Organizer, Presiding*G. Liu, *Presiding***7:55** Introductory Remarks.**8:00 ENFL 42.** Recent progress in organic-based aqueous flow batteries for stationary electrical energy storage. *M.J. Aziz***8:30 ENFL 43.** Understanding the role of electrode microstructure and thermal treatment on redox flow battery performance. *F. Brushett***9:00 ENFL 44.** Electrolyte-dictated organic redox material design for beyond-lithium-ion batteries. *Y. Liang, X. Chi, Y. Jing, S. Gheyhani, Y. Zhang, F. Hao, H. Dong, Y. Yao***9:20** Intermission.**9:35 ENFL 45.** Picking potions and potions: Closed form zinc bromine cells. *D. Steingart***10:05 ENFL 46.** Next-generation, rechargeable zinc batteries through 3D electrode redesign. *J.W. Long, J.F. Parker, J.S. Ko, D.R. Rolison***10:35 ENFL 47.** Nanoscale material design for rechargeable zinc anodes for high energy aqueous batteries. *N. Liu***SECTION G***Renaissance Boston Waterfront**Pacific Grand Ballroom Salon F***Petroleum, Natural Gas, Gas Hydrates & Shale Gas**F. Li, H. Lin, L. Neal, *Organizers*L. Fan, *Organizer, Presiding***7:55** Introductory Remarks.**8:00 ENFL 48.** New reactive fluids to increase gas production from source rock reservoirs. *K.L. Hull, R. Saini, Y. Abusleiman***8:20 ENFL 49.** Fluid/fluid and fluid/rock interpretation for a comprehensive understanding of low salinity waterflooding in limestone rocks. *J.T. Tetteh, R. Barati Ghahfarokhi***8:40 ENFL 50.** *In-situ* chemical mapping and quantification of organic matter in oil shale with 10-nm spatial resolution. *D.S. Jakob, X. Xu***9:00 ENFL 51.** Following the flocculation of crude oil asphaltenes' using ultrasound and electrochemical impedance spectroscopy. *J. Moncada, D. Schartung, N. Stephens, T. Oh, C.A. Carrero***9:20 ENFL 52.** Effects of low salinity, potential determining ions and oil composition on carbonate wettability alteration in a model system. *J. Song, S. Rezaee, Q. Wang, M. Puerto, S.L. Biswal, G.J. Hirasaki***9:40** Intermission.**9:50 ENFL 53.** Influencing factors and selection of CH₄ and CO₂ adsorption on Silurian shale in Yibin, Sichuan Province of China. *L. He, C. Yue, Y. Niu, S. Li, Y. Ma***10:10 ENFL 54.** Dynamics and transport of gases in nano-confined fluids for sustainable shale gas recovery. *G. Gadikota***10:30 ENFL 55.** Petroleum-generating potential of the late cretaceous shale unit (Mamu Formation) in Western Flank of Anambra Basin, Nigeria. *T.A. Adedosu, G. Ogungbesan***10:50 ENFL 56.** Reactivity improvement using hybrid LaFeO₃-Fe₂O₃ oxygen carriers for chemical looping methane partial oxidation. *L. Qin, C. Zhou, M. Guo, Y. Liu, J.A. Fan, L. Fan***11:10 ENFL 57.** Characterization of ketones compounds in sediments. *P. Wang, C. Xu, Q. Shi***Moving the Safety Values of the ACS Forward**Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS¹, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB**Catalysis for Environmental & Energy Applications**

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Designing Polymers for Function in Electrochemical Energy Storage Devices**Advanced Polymer Membranes & Electrolytes**

Sponsored by PMSE, Cosponsored by ENFL

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO, ENFL and I&EC

SUNDAY AFTERNOON**SECTION A***Renaissance Boston Waterfront**Spectacle***2D Materials: Innovative Materials & Devices for Energy & Fuels**L. Hu, Y. Lin, Z. Wu, *Organizers*V. Barone, Y. Zhu, *Organizers, Presiding***1:25** Introductory Remarks.**1:30 ENFL 58.** Using optical imaging technique to characterize 2D materials for energy research. *X. Shan, C. Yang, K. Vu***1:55 ENFL 59.** Microwave enabled graphene derivatives with unique structures and their applications. *H. He***2:20 ENFL 60.** 2D black phosphorous as a polysulfide trapping agent in lithium-sulfur batteries. *N. Koratkar***2:45 ENFL 61.** Synthesis and assembly of ordered nanocomposite anode materials using graphene. *N. Bao, D. He, C. Li, L. Shen, H. Kung***3:10** Intermission.**3:25 ENFL 62.** Anisotropic thermoelectric conduction in 2D materials. *J.E. Goldberger***3:50 ENFL 63.** Hybrid graphene nanostructures for electrochemical energy storage. *M. Song***4:15 ENFL 64.** Two-dimensional conductive MOF as Li metal anode nanohost. *Y. Zhu***4:40 ENFL 65.** Wearable bioelectronic and energy devices based-on laser-induced porous graphene. *Z. Yan***SECTION B***Renaissance Boston Waterfront**Pacific Grand Ballroom Salon A***Carbon Dioxide Conversion & Artificial Photosynthesis**F. Jiao, *Organizer*H. Lin, *Organizer, Presiding*Y. Kang, *Presiding***1:55** Introductory Remarks.**2:00 ENFL 66.** Interconversion between CO₂ and HCOOH catalyzed by PdAu reduced graphene oxide. *H. Kawanami, H. Zhong, M. Iguchi, M. Chatterjee, Q. Xu***2:40 ENFL 67.** APTES-promoted molecular basket sorbents for CO₂ capture from flue gas. *X. Wang, C. Song***3:10 ENFL 68.** Sorbent enhanced reverse water gas shift reaction: Maximizing CO yield. *J. Pieterse***3:35** Intermission.**3:50 ENFL 69.** Tailoring the discharge reaction in Li-CO₂ batteries through incorporation of CO₂ capture chemistry. *A. Khurram, B. Gallant***4:15 ENFL 70.** CO₂ capture and recycling (CCR): New silica supported polyamine based solid adsorbents for efficient CO₂ absorption. *T. Mathew, L. Gurlung, S.G. Prakash***4:40 ENFL 71.** Unique mixing behaviors of novel nanoscale hybrid material systems enabling combined CO₂ capture and conversion. *T. Ferlic, M. Gao, A.A. Park***5:05** Concluding Remarks.**SECTION C***Renaissance Boston Waterfront**Pacific Grand Ballroom Salon D***Innovative Nanomaterials Used in Solar Energy****Carbon Dioxide Conversion & Artificial Photosynthesis**Y. H. Hu, *Organizer*R. T. Koodali, W. Wei, *Organizers, Presiding***1:55** Introductory Remarks.**2:00 ENFL 72.** Identifying the bandgaps of two-dimensional CsPb₂Br₅ and zero-dimensional Cs₄PbBr₆ perovskites. *J. Bao***2:40 ENFL 73.** Carbon nanomaterials for new generation solar cells. *W. Wei, Y.H. Hu***3:10 ENFL 74.** Scalable photocatalytic nanotube arrays towards terawatt-scale artificial photosynthesis. *W. Jo, H.M. Frei***3:30 ENFL 75.** Pulsed electrodeposition of an ultrathin ZnO_x interlayer for stabilizing Cu₂O-based photocatalysts for photoelectrochemical applications. *H. Wu, R. Amal, Y. Hau Ng***3:50 ENFL 76.** Growth of silica nanowires on diatom frustules via vapor-liquid-solid process. *A. Li, X. Zhao, S. Anderson, X. Zhang***4:10** Concluding Remarks.

SECTION D

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon E

Innovative Materials & Integrated Pathways for Sustainable Energy & Resource Production

T. Allen, G. Gadikota, *Organizers, Presiding*
1:25 Introductory Remarks.

1:30 ENFL 77. New ethylene technology using carbon dioxide as a soft oxidant. **A.M. Gaffney**

2:00 ENFL 78. Direct conversion of Ca- and Mg-bearing alkaline industrial residues and CO₂-bearing flue gas streams into calcium and magnesium carbonates for environmental reuse. **G. Gadikota, M. Liu**

2:30 Intermission.

2:45 ENFL 79. New thermodynamic and flow considerations for tight, organic-rich rocks. **M.D. Deo**

3:15 ENFL 80. Non-aqueous amine-based solvents as carbon dioxide capture materials. **D. Malhotra, P. Koeh, D. Heldebrant, J. Page, D. Cantu, V. Glezakou, R. Rousseau, F. Zheng, M. Bearden**

3:45 ENFL 81. Enhancement of magnetic properties of Y₃Fe₅O₁₂ (YIG) prepared by the sol-gel synthesis with an optimized mechanical pressing process for spin-caloritronic materials. **M. Jang, K. Lee**

4:15 Concluding Remarks.

SECTION E

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon B

USA-China Symposium on Energy

Battery & Fuel Cell

Y. H. Hu, *Organizer*
F. Jin, X. Wang, *Organizers, Presiding*
Z. Yao, *Presiding*

1:55 ENFL 82. Manganese based compounds for high-performance Li-ion hybrid capacitors. **G. Cao**

2:30 ENFL 83. Thickness independent capacitance of vertically aligned liquid crystalline MXenes. **Y. Xia, T. Mathis, M. Zhao, B. Anasori, A. Dang, Z. Zhou, H. Cho, Y. Gogotsi, S. Yang**

3:05 ENFL 84. Porous lithium metal foam with superior ion accessibility for high performance lithium metal anode. **A. Hafez, H. Zhu**

3:30 Intermission.

3:40 ENFL 85. Boron doped graphene as metal-free electrocatalysts for fuel cells. **Z. Yao, X. Wang**

4:15 ENFL 86. Nitrogen coordinated single cobalt atom catalysts for oxygen reduction in fuel cells. **G. Wu**

4:40 ENFL 87. Emerging energy materials for lithium-sulfur batteries. **Q. Zhang**

5:00 ENFL 88. Chemically-engineered porous copper matrix with cylindrical core-shell skeleton as a stable host for metallic sodium anode. **C. Wang**

SECTION F

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon C

Battery Technology: Vehicle to Grid

Lithium Systems, Safety & Sustainability

N. Liu, W. Liu, *Organizers*
Z. Chen, H. Zhu, *Presiding*

1:25 Introductory Remarks.

1:30 ENFL 89. Charge storage in high-lithium hexaoxozirconates. **A. Stein, N. Tran, B.E. Wilson, Y. Fang, W.H. Smyrl, D.G. Truhlar, S. Huang**

2:00 ENFL 90. Water-in-salt electrolyte batteries. **C. Wang, K. Xu**

2:30 ENFL 91. Pillared layered oxides for enhanced lithium intercalation. **L.T. Thompson, W. Lee, Y. Chen**

3:00 Intermission.

3:20 ENFL 92. Investigating of the reliability and service life of EV batteries when used for grid services. **V.L. Sprenkle**

3:50 ENFL 93. Materials design for batteries with improved safety. **Z. Chen**

4:20 ENFL 94. Approach towards sustainable energy storage and generation using natural biopolymers and structures. **H. Zhu, A. Mukhopadhyay, J. Hamel, L. Yang**

4:50 ENFL 95. Holistic view of the interactions of binders in Si-based composite anodes: From slurry formulation to the casted electrode and its impact on electrochemical performance. **K.A. Hays, R. Ruther, B. Armstrong, G. Veith**

SECTION G

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F

Petroleum, Natural Gas, Gas Hydrates & Shale Gas

L. Fan, F. Li, L. Neal, *Organizers*
H. Lin, *Organizer, Presiding*

1:25 Introductory Remarks.

1:30 ENFL 96. Combined partial oxidation and CO₂ dry reforming of methane in an iron oxide-based chemical looping process. **J.W. Lee, M. Lee, H. Lim, D. Kang**

2:10 ENFL 97. Alternative hydrogen generation process from hydrogen sulfide through an iodine based thermochemical cycle. **P. Lalur, R. Gillis, W.H. Green**

2:35 ENFL 98. Effect of temperature in activation of methane using WC catalyst supported on sulfated zirconia. **A. Abedin, S. Kanitkar, S. Bhattar, J.J. Spivey**

3:00 ENFL 99. Hydrogenation of selected heavy oil model systems using iron-based slurry dispersed catalyst. **B. Antwi Peprah**

3:25 ENFL 100. H-SAPO-34 catalyzed low-temperature single step conversion of methane to higher hydrocarbons via *in-situ* chlorine or bromine monohalogenation. **P.T. Batamack, T. Mathew, S.G. Prakash**

3:50 Intermission.

4:00 ENFL 101. Chemical looping oxidative dehydrogenation for light olefin generation: Redox catalyst design and process evaluations. **L. Neal, F. Li**

4:30 ENFL 102. *Ab-initio* derived group additivity model for intra-molecular hydrogen abstraction reactions. **P.P. Plehiers, R. Van de Vijver, M. Sabbe, M. Reyniers, K. Van Geem, G.B. Marin**

4:55 ENFL 103. Molecular-level kinetic model for naphtha catalytic reforming. **W. Lyu, L. Zhang, S. Zhao, Q. Shi, C. Xu**

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Designing Polymers for Function in Electrochemical Energy Storage Devices

Architected Polymeric Materials

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Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO, ENFL and I&EC

MONDAY MORNING

SECTION A

Renaissance Boston Waterfront
Spectacle

2D Materials: Innovative Materials & Devices for Energy & Fuels

V. Barone, L. Hu, Y. Zhu, *Organizers*
Y. Lin, Z. Wu, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 104. Two-dimensional polymers: Tunable organic 2D materials. **A. Schlüter**

8:35 ENFL 105. Amorphous MoS₃ as the sulfur-equivalent cathode material for room-temperature Li-S and Na-S batteries. **J. Lu**

9:10 ENFL 106. Two-dimensional nanomaterials for emerging energy storage. **V. Mai**

9:35 ENFL 107. Bilayered vanadium oxides by chemical pre-intercalation of alkali and alkali-earth ions as battery electrodes. **E. Pomerantseva**

10:00 Intermission.

10:05 ENFL 108. Applications of liquid exfoliated nanosheets in energy storage. **J.N. Coleman**

10:40 ENFL 109. Revealing the oxidation kinetics and energy storage properties of titanium carbide (MXene) aqueous ink. **C. Zhang, V. Nicolosi**

11:05 ENFL 110. Thermoelectric properties of flexible reduced graphene oxide films up to 3000 K. **T. Li**

11:30 ENFL 111. 3D cross-linked graphene materials as standalone solar energy converter. **Y. Chen**

SECTION B

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon A

Nanoscience of Energy Storage

Electrodes & Electrolytes for Electrocatalytic Reactions

B. Gurkan, J. L. Schaefer, *Organizers, Presiding*

8:25 Introductory Remarks.

8:30 ENFL 112. Quantitative assessment of channeling mechanisms in nanoscale catalytic architectures.

S.A. Calabrese Barton, E. Earl, K.S. Chavan, Y. Liu

9:10 ENFL 113. Engineering solvent-electrolyte systems for efficient electroreduction of dinitrogen to ammonia under ambient conditions. **B. Suryanto, R. Hodgetts, F. Zhou, M. Kar, A. Simonov, D. MacFarlane**

9:50 ENFL 114. Earth-abundant Fe₂TiO₃ heterostructures for highly active photocatalytic hydrogen evolution from UV, visible to near infrared light. **T. Kuo, S. Li, D. Wang**

10:20 Intermission.

10:35 ENFL 115. Towards activity design principles of non-precious nanocatalysts for oxygen electrocatalysis. **B. Cai, A. Garg, W. Mounfield, D. Kuznetsov, Y. Roman-Leshkov, Y. Shao-Horn**

SECTION C

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon D

Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Andrew Herring

Cosponsored by PROF

L. F. Greenlee, *Organizer*

R. E. Winans, *Organizer, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 116. Hydrodechlorination of trichloroethylene using Pd catalysts supported on swellable organically modified silica (SOMS). **U.S. Ozkan, G. Celik, S. Ailawar, H. Sohn, S. Gunduz, P. Edmiston**

8:30 ENFL 117. Understanding the structure of Fe-Ni hydroxide nanoparticle electrocatalysts. **L.F. Greenlee, P. Acharya, J. Burrow, M. Benamara, S. Lee**

9:00 ENFL 118. Development of transition metal catalysts for arene alkenylation. **T. Gunnoe, J. Chen, M. Webster-Gardiner, B.A. Vaughan, W. Zhu, B.A. McKeown, X. Jia, A. Foley**

9:30 ENFL 119. QM metadynamics full solvent simulations of the oxygen reduction reaction (ORR); atomistic description of the electrode-electrolyte interface (EEI). **W.A. Goddard, T. Cheng, A. Fortunelli**

10:00 Intermission.

10:05 ENFL 120. Plasmon-induced resonance energy and electron transfer in photocatalysts and photoelectrochemical cells. **N. Wu**

10:35 ENFL 121. 3D carbon nanomaterials for supercapacitors. **Y.H. Hu**

11:05 ENFL 122. Supercapacitive swing adsorption for carbon dioxide separation. **S. Zhu, C. Liu, K. Landskron**

11:35 ENFL 123. Confinement effects on the pyrolytic decomposition of lignin model compounds. **M. Kidder, P.F. Britt, K. Herwig, A.C. Buchanan**

SECTION D

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon E

Sustainable Energy Conversion via Innovative Electrocatalysis & Photocatalysis

F. Jiao, Y. Shao, G. Wu, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 124. Platinum intermetallic oxygen reduction catalysts. **J. Spendelov, Y. Pan, Y. Kim, J. Li, S. Sun**

8:30 ENFL 125. Stain-controlled energy electrocatalysis on multimetallic nanomaterials. **S. Guo**

9:00 ENFL 126. Core@shell nanostructured Au@NiPt electrocatalysts for oxygen reduction reaction. **B. Xu**

9:30 ENFL 127. Instability of fuel cell catalysts: Precious metal and platinum group metal (PGM)-free catalysts. **Y. Shao, X. Xie, V. Prabhakaran, J. Liu**

10:00 ENFL 128. Rational design of low-PGM and non-PGM catalysts for PEM fuel cells. **G. Zhang, R. Chenitz, M. Lefèvre, Q. Wei, X. Yang, J. Dodelet, S. Sun**

10:30 Intermission.

10:35 ENFL 129. Controlling nanoparticle structure and nanoparticle interaction with oxide support to enhance electrochemical oxidation reactions. **S. Sun**

11:05 ENFL 130. Transmission electron microscopy characterization of metallic nanostructures for electrocatalysis. **D. Su**

11:35 ENFL 131. Redox fuel cells enabling converting fuels to electricity at high rate. **L. An**

SECTION E

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon B

USA-China Symposium on Energy**CO₂ Conversion, Biomass, Coal & C₁**

F. Jin, *Organizer*
Y. H. Hu, X. Wang, *Organizers, Presiding*
Z. Yao, *Presiding*

8:25 ENFL 132. CH₄ and CO₂ conversion. *Y.H. Hu*

9:00 ENFL 133. Synergetic conversion of biomass and CO₂ by mimicking nature. *F. Jin, G. Yao, H. Zhong*

9:35 ENFL 134. CO₂ hydrogenation to fuel and chemicals. *Y. Sun*

10:10 Intermission.

10:20 ENFL 135. Acrylic acid production by catalytic dehydration of lactic acid and alkyl lactates over K⁺-exchanged zeolites. *B. Xu, Z. Liu*

10:55 ENFL 136. Deoxygenation of fatty acids to alkanes in water with Ni catalyst. *H. Zhong, C. Jiang, J. Wang, B. Jin, G. Yao, Z. Huo, F. Jin*

11:20 ENFL 137. Algae to biodiesel: Research overview. *W.D. Seider*

SECTION F

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon C*

Battery Technology: Vehicle to Grid**All-Solid-State Batteries**

N. Liu, *Organizer*
W. Liu, *Organizer, Presiding*
J. Rupp, *Presiding*

7:55 Introductory Remarks.

8:00 ENFL 138. Low-cost, large-scale energy storage systems with a mediator-ion solid electrolyte. *A. Manthiram*

8:30 ENFL 139. When lithium travels in solid state disorder for novel device prototypes to store energy for electric vehicles and emulate data. *J. Rupp*

9:00 ENFL 140. Interfacial engineering of lithium metal anodes: From liquid to solid electrolytes. *N.P. Dasgupta*

9:30 ENFL 141. Understanding interfaces in solid state electrolytes for Li ion batteries. *A.A. Gewirth, L. Sang, M. Philip*

10:00 Intermission.

10:20 ENFL 142. Conformable and self-healing solid state electrolytes for stable lithium metal batteries. *W. Liu*

10:50 ENFL 143. Designing composite solid electrolyte for lithium batteries with high energy density. *Y. Yang*

11:20 ENFL 144. Advanced sulfide solid electrolyte with high-voltage stability. *X. Li*

SECTION G

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F*

Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage**Energy Storage Technologies**

J. Liu, X. Yu, *Organizers*
X. Ji, H. Pan, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 145. Thoughts on Li metal protection. *J. Li*

8:30 ENFL 146. Materials integration and optimization for high-energy-density rechargeable lithium metal batteries. *J. Liu*

9:00 ENFL 147. Li metal anode protection in safe high-energy-density rechargeable batteries. *X. Cheng, X. Chen, R. Zhang, C. Zhao, X. Zhang, C. Yan, Q. Zhang*

9:30 ENFL 148. Safe lithium metal batteries enabled by asphalt and red phosphorus. *T. Wang*

9:50 Intermission.

9:55 ENFL 149. Chemical immobilization and conversion of active polysulfides directly by copper current collector: A new approach to enabling stable room-temperature Li-S and Na-S batteries. *J. Lu*

10:25 ENFL 150. Surface chemistry in cobalt phosphide-stabilized lithium-sulfur batteries. *Y. Zhong, L. Yin, P. He, W. Liu, Z. Wu, H. Wang*

10:45 ENFL 151. Synergetic pore structure optimization and nitrogen doping of 3D porous graphene for high performance lithium sulfur battery. *D. Cheng, T. Fan*

11:05 ENFL 152. High capacity, highly reversible lithium-sulfur batteries based on fibrous sulfur/poly(acrylonitrile) cathodes and a catholyte. *M. Buchmeiser, M. Frey, S. Warneke, R. Zenn, R. Dinnebie, A. Hintennach*

11:25 ENFL 153. Towards high specific energy Li-S batteries: Electrode design and lean electrolyte. *Y. Shao, H. Pan, L. Shi, J. Liu*

SECTION H

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G*

Petroleum, Natural Gas, Gas Hydrates & Shale Gas

L. Fan, H. Lin, *Organizers*
F. Li, L. Neal, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 154. Chemical looping for reforming and chemicals. *S. Scott*

8:40 ENFL 155. Dual column on-line liquid chromatography coupled to ultrahigh resolution 21 T FT-ICR mass spectrometry for the determination of molecular-level changes in petroleum samples. *S.M. Rowland, R.P. Rodgers, D.F. Smith, G.T. Blakney, Y. Corilo, C.L. Hendrickson*

9:05 ENFL 156. *In situ* analysis of neat supercritical fluids and binary mixtures of fuel-related compounds under pyrolysis conditions. *A.F. Deblase, W.K. Lewis, C.E. Bunker*

9:30 ENFL 157. Characterization of sulfur compounds from thermal cracking of petroleum residue on contact catalyst by comprehensive two-dimensional gas chromatography coupled with time-of-flight mass spectrometry. *X. Cai, J. Long, S. Tian, Z. Liu, Y. Liu*

9:55 Intermission.

10:10 ENFL 158. Metal-organic frameworks for energy efficient separation of hydrocarbon isomers. *Z. Gu*

10:35 ENFL 159. Detering effect of resins on the aggregation of asphaltene molecules in n-heptane. *M. Derakhshani Molayousefi, M. McCullagh*

11:00 ENFL 160. Determination of total fluorine, chlorine, and sulfur in aromatic hydrocarbons by oxidative pyrolytic combustion followed by ion chromatography (combustion ion chromatography-CIC). *S. Patil, J. Rohrer*

11:25 ENFL 161. Separation and characterization of polar sulfur-containing compounds in crude oil. *L. Ren, Y. Zhang, X. Meng, Q. Shi*

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Growing with Project SEED: 50 years and 10,000+ Students

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Designing Polymers for Function in Electrochemical Energy Storage Devices**Macromolecular Design for Stability, Conductivity & Selectivity**

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Analysis of Materials for Energy Storage

Sponsored by ANYL, Cosponsored by ENFL

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO, ENFL and I&EC

MONDAY AFTERNOON**SECTION A**

*Renaissance Boston Waterfront
Spectacle*

2D Materials: Innovative Materials & Devices for Energy & Fuels

L. Hu, Z. Wu, Y. Zhu, *Organizers*
V. Barone, Y. Lin, *Organizers, Presiding*

1:25 Introductory Remarks.

1:30 ENFL 162. Controlled functionalization of 2D graphitic materials for multifunctional applications. *L. Dai*

2:05 ENFL 163. Printable two-dimensional nanomaterial inks for electronic and energy applications. *M. Hersam*

2:40 ENFL 164. Porous, conductive crystals: Expanding the 2D materials library with metal-organic frameworks (MOFs). *R.W. Day, M. Dincă*

3:05 ENFL 165. Design of low-dimensional nanostructured materials for energy storage applications. *X. Li, J. Song, D. Reed, V.L. Sprenkle, Y. Lin, M. Song*

3:30 Intermission.

3:35 ENFL 166. Graphene networks and black phosphorus for lithium batteries. *W. Ren*

4:10 ENFL 167. Graphene and 2D materials for microscale energy storage devices. *Z. Wu*

4:35 ENFL 168. How to survive in machine learning era: Some recent lessons on 2D materials. *Z. Chen*

5:00 ENFL 169. Multiscale principles to boost reactivity of 2D materials in gas-involving energy electrocatalysis. *C. Tang, H. Wang, Q. Zhang*

SECTION B

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon A*

Nanoscience of Energy Storage**Mxenes, MOFs, Carbon & Hybrid Materials**

B. Gurkan, J. L. Schaefer, *Organizers, Presiding*
1:55 Introductory Remarks.

2:00 ENFL 170. Mechanisms of high-rate electrochemical energy storage in MXenes. *T. Mathis, X. Wang, P. Simon, Y. Gogotsi*

2:30 ENFL 171. Form factor-free, printed power sources. *S. Lee*

3:00 ENFL 172. Using polymers and 2D materials to encapsulate ionic liquids for enhanced performance of electrochemical double layer capacitors. *Q. Luo, P. Wei, Q. Huang, B. Gurkan, E. Pentzer*

3:30 Intermission.

3:45 ENFL 173. Computational discovery of metal-organic frameworks for hydrogen storage: combining high-throughput screening, machine learning, and experimental demonstration. *D. Siegel*

4:15 ENFL 174. Metal organic frameworks (MOFs) derived nanostructures for electrochemical energy storage. *Y. Zhu*

4:45 ENFL 175. Enhanced carbon dioxide uptake and kinetics in tailored nanohybrid system. *S. Jeong, P.J. Milner, J. Urban*

SECTION C

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon D*

Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Andrew Herring

Cosponsored by PROF

R. E. Winans, *Organizer*

L. F. Greenlee, *Organizer, Presiding*

1:55 ENFL 176. Catalytic fast pyrolysis for chemicals and materials. *M.R. Nimlos, N. Wilson, C. Kinchin, C. Mukarakate*

2:25 ENFL 177. Pyrolysis bio-oil: Standardized analytical methods enable new insights in research and processing. *J. Ferrell, S.K. Black, E. Christensen, M.V. Olarte, A.B. Padmaperuma, R.M. Connatser*

2:55 ENFL 178. Oxidation stability of bio-derived gasoline blendstocks: Novel oxidation chemistry for alkyl furans and cyclopentanone. *R.L. McCormick, E. Christensen, G.M. Fiorani, S. Kim, R. Paton*

3:25 ENFL 179. Atomistic representations of coal, char, coke, and soot: similar challenges of scale and partial ordering. *J.P. Mathews*

3:55 Intermission.

4:00 ENFL 180. Mechanistic investigation into the formation of polycyclic aromatic hydrocarbons from the pyrolysis of plant hydrocarbons. *P.F. Britt, M. Kidder, A.C. Buchanan*

4:30 ENFL 181. Toward sustainable transportation. *A.L. Boehman*

5:00 ENFL 182. Spectroscopic probes for molecular-level identification and optimization of adsorption sites. *A.D. Lueking*

5:30 ENFL 183. Illuminating catalysis with X-ray scattering and spectroscopy. *R.E. Winans, S. Lee, S. Lee, T. Li*

6:00 ENFL 184. Sustainable energy conversion via innovative electrocatalysis & photocatalysis

F. Jiao, Y. Shao, G. Wu, *Organizers, Presiding*

1:55 ENFL 184. Earth-abundant materials as electrocatalysts for clean energy applications. *R.E. Schaak*

2:35 ENFL 185. Tuning cooperative electrocatalysis at nanocrystals surfaces and interfaces. *S. Zhang*

3:05 ENFL 186. Catalyst design by scanning probe block copolymer lithography. *L. Huang, Y. Yu, C.A. Mirkin, Y. Kang*

3:35 ENFL 187. Atomically dispersed electrocatalysts. *C. Cui*

4:05 Intermission.

4:15 ENFL 188. Direct observation of atomically dispersed catalysts for oxygen reduction. *D. Cullen, K. More*

4:55 ENFL 189. Carbon-rich electrocatalysts by design and nanostructure engineering. *X. Feng*

ENFL

5:25 ENFL 190. From carbon-based nanotubes to nanocages for advanced energy conversion and storage. *Z. Hu*

SECTION E

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon B*

USA-China Symposium on Energy

CO₂ Conversion, Biomass, Coal & C1

F. Jin, *Organizer*

Y. H. Hu, X. Wang, *Organizers, Presiding*
Z. Yao, *Presiding*

1:55 ENFL 191. Cleaner coal applications. *C. Wei*

2:30 ENFL 192. Efficiently direct hydrogenation of microalgae (*Chlorococcum sp.*) into 1,2-propanediol and ethylene glycol over Ni based catalyst in water. *L. Kong, G. Miao, Y. Zan, Y. Sun, Y. Sun*

2:55 Intermission.

3:05 ENFL 193. Optical dilatometry of synthetic coal ash and slag cones. *P.Y. Hsieh*

3:25 ENFL 194. Preparation of Ni/ZrO₂ catalyst with enhanced activity and coke resistance for CO methanation. *X. Jia, C. Liu*

3:45 ENFL 195. Mechanism of selective and nonselective oxidation in La₂O₃-catalyzed oxidative coupling of methane reaction. *S. Li*

SECTION F

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon C*

Battery Technology: Vehicle to Grid

Sodium Systems & Advanced Characterizations

N. Liu, W. Liu, *Organizers*

V. Augustyn, W. Li, *Presiding*

1:55 Introductory Remarks.

2:00 ENFL 196. Layered transition metal oxides for aqueous sodium ion intercalation. *V. Augustyn*

2:30 ENFL 197. Deciphering the cathode-electrolyte interfacial chemistry to stabilize sodium layered cathode materials. *L. Mu, D. Nordlund, H. Xin, F. Lin*

3:00 ENFL 198. Catalyzing the charging process in Li-O₂ batteries using lithium halides. *G. Leverick, M. Tuladziecki, R. Tatar, S. Feng, Y. Shao-Horn*

3:20 Intermission.

3:40 ENFL 199. Recent progress and prospects of next-generation redox flow batteries. *G. Yu*

4:10 ENFL 200. Tactical tunings of the electrode-electrolyte interface in enabling highly stable sodium metal anode. *W. Li, H. Wang, C. Wang*

4:40 ENFL 201. TiO₂ inverse opals as sodium-ion battery anodes. *Y. Xu*

5:10 ENFL 202. Cryo-electron microscopy for battery materials. *Y. Li, Y. Cui*

SECTION G

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F*

Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage

Electrode Materials & Architectures

X. Ji, J. Liu, X. Yu, *Organizers*

H. Pan, *Organizer, Presiding*

K. R. Zavadil, *Presiding*

1:55 ENFL 203. Computational studies of solubilities of lithium polysulfides and reaction mechanisms in Li/S batteries. *L. Cheng, L.A. Curtiss, R. Surendran Assary, B. Narayanan*

2:25 ENFL 204. Ion-solvent interactions and their impact on electrolytes for Mg-based energy storage. *K.R. Zavadil, N. Hahn, T. Seguin, K. Persson, K. Lau, C. Liao, B. Ingram*

2:55 ENFL 205. Magnesium perfluoroalkoxyaluminate as high-voltage Mg electrolytes. *K. Lau, T. Seguin, N. Hahn, E. Carino, J. Connell, B. Ingram, K. Persson, K.R. Zavadil, C. Liao*

3:15 ENFL 206. Polyoxyometalate-based molecular cathodes for rechargeable magnesium-ion batteries. *H.K. Henry, S. Lee*

3:35 Intermission.

3:55 ENFL 207. Innovative metal-sulfide cathode active material for aluminum-ion batteries. *Y. Hu*

4:15 ENFL 208. Zn spinels as high-voltage and high-capacity cathode material for non-aqueous Zn-ion batteries. *A.A. Gewirth, C. Pan*

4:45 ENFL 209. Hierarchically designed 3D holey C₂N aerogels as bifunctional oxygen electrodes for flexible and rechargeable Zn-air batteries. *S. Shinde, D. Kim, J. Lee*

5:05 ENFL 210. Highly reversible reactions in neutral aqueous Zn battery systems. *H. Pan, Y. Shao, B. Li, J. Liu*

SECTION H

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon G*

Novel Catalytic Materials

Developments for Fuel Generation & Energy Storage

M. C. Beard, J. Gu, F. Lin, *Organizers*

A. B. Bocarsly, Y. Yan, *Organizers, Presiding*

1:25 Introductory Remarks.

1:30 ENFL 211. Challenges in photoelectrochemical water splitting. *J.A. Turner*

2:00 ENFL 212. Activating basal plane of MoS₂ for hydrogen evolution reaction through sulfur vacancy, doping and strain. *X. Zheng*

2:30 ENFL 213. Photoreduction of water and CO₂ using 1D and 2D semiconductor/metal nanoheterostructures. *T. Lian*

3:00 ENFL 214. Utilization of hot excitons in semiconductor nanostructures for solar photoconversion to photovoltaics and solar fuels. *A.J. Nozik, M.C. Beard*

3:30 Intermission.

3:45 ENFL 215. Solar products. *D.G. Nocera*

4:15 ENFL 216. Microbial photo-assisted energy conversion for hydrogen generation and wastewater cleaning. *J. Gu, W. Vakkil, L. Lu, J. Ren*

4:35 ENFL 217. Ultrathin 2D photocatalytic materials for organic transformations coupled with H₂ evolution. *Y. Sun*

4:55 ENFL 218. Catalytic materials for the making of renewable fuels and chemicals. *I. Chorkendorff*

SECTION I

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Nanomaterials used in Energy & Fuels

T. Atesin, Y. Zhang, *Organizers*

3:00 - 5:00

ENFL 219. Au nanoparticles decorated Co with smooth and fibershaped structures as electrocatalysts for glucose electro-oxidation. *A. Zabielaite, D. Upskuviene, B. Simkunaite-Stanyiene, L. Tamasauskaitė-Tamasiunaite, E. Norkus*

ENFL 220. Facile synthesis of nitrogen-doped micro/mesoporous carbons as sulfur host for advanced lithium-sulfur batteries. *A. Abdelkader, A.A. Alzharani, K.M. Ashraf, H.M. El-Kaderi*

ENFL 221. Photocatalytic reactivity of nanocomposite to decompose the antibiotics using simulated solar energy. *C. Li, R. Hu, J.L. Liu*

ENFL 222. Novel graphene based support for phase change materials. *A. Li, G. Wang, H. Gao*

ENFL 223. Rational design of oxide/carbon composite to achieve superior rate capability via enhanced lithium ion transport across carbon to oxide. *K. Kim, J. Jeong, Y. Choi, Y. Kim*

ENFL 224. Multimodal porous carbon derived from ionic liquids as supercapacitor electrode. *J. Jeong, K. Kim*

ENFL 225. Electrochemical phase transformation of anatase TiO₂ to magneli Ti₈O₁₁ for potassium ion battery. *G. Lee, Y. Kim, J. Jeong, K. Kim*

ENFL 226. Effect of nanocarbons of different dimensions on electrochemical properties of NaTi₂(PO₄)₃@C microsphere composites for high-performance sodium-ion batteries. *H. Roh, G. Lee, B. Park, Y. Choi, K. Kim*

ENFL 227. Silicon diphosphide-CNT composite anode material for high-performance Li-ion batteries. *B. Park, H. Roh, S. Haghigat-Shishavan, H. Choi, K. Kim*

ENFL 228. New method of characterizing intrinsic coal combustion behavior with TG. *Y. Zhang*

ENFL 229. Synthesis of SnO₂/nanoperforated graphene microball to analyze the effects of nanoperforation under SnO₂ on lithium-ion storage performance. *Y. Choi, J. Jeong, Y. Kim, K. Kim*

ENFL 230. Design and synthesis of porosity and polarity controlled N-doped and Fe-N-doped carbons for oxygen reduction reaction. *H. Kim, M. Kang, W. Yoo*

ENFL 231. Unexpected finding of pore blockage & local graphitization of Si@C yolk-shell structure during magnesiothermic reduction. *M. Kang, H. Kim, W. Yoo*

ENFL 232. Three-dimensional hierarchical structure NiCo₂O₄@NiO on carbon cloth for supercapacitor with excellent cycle stability. *Y. Ouyang, X. Xia, W. Lei, Q. Hao*

ENFL 233. Supramolecular synthesis of porous C₃N₄ for high-efficiency photocatalytic H₂ evolution and CO₂ reduction. *S. Wan, M. Ou, Q. Zhong*

ENFL 234. Investigation of decomposition in lead halide perovskites via *in-situ* absorption spectroscopy and grazing incidence wide angle x-ray scattering. *S. Kundu, T. Kelly*

ENFL 235. Transition metal-tin modified beta zeolite catalyst for the conversion of miscanthus into lactic acid. *M. Xia, Z. Shen, Y. Zhang, X. Zhou*

ENFL 236. Control of the properties of two-dimensional perovskites with long-chain alkylamines (II): Effect of classification of amines. *H. Nagasaka, M. Fujita, Y. Takeoka, M. Rikukawa*

ENFL 237. Well-decorated graphene tube @ graphene microsphere hybrid for supercapacitors. *Y. Kim, M.N. Samani, K. Kim, S. Choi*

ENFL 238. Chemical strategies for enhanced oxygen reduction reaction activity in ultrathin Pt nanowires supported by functionalized carbon nanotubes. *L. Li, H. Liu, L. Wang, S. Yue, X. Tong, T. Zaliznyak, G. Taylor, S.S. Wang*

ENFL 239. Designed fabrication of hierarchical and porous nanostructures for energy storage and conversion. *T. Zhu*

ENFL 240. Nano-needle forest of nickel-cobalt sulfide for efficient multifunctional energy generation and storage. *C. Zequine, S.D. Bhoyate, C. Zhang, K.S. Siam, P.K. Kahol, R. Gupta*

ENFL 241. Fe-Ni sulfides as an efficient and flexible bifunctional electrocatalyst for overall water splitting. *C. Zhao, C. Zhang, K.S. Siam, P.K. Kahol, R. Gupta*

ENFL 242. Multi-functional high-performance cobalt-based materials for energy generation and storage devices. *M. Altammar, S.D. Bhoyate, C. Zhang, K.S. Siam, P.K. Kahol, R. Gupta*

ENFL 243. Catalytic conversion of biomass to value added chemicals and fuels. *A.D. Lalsare, J. Hu*

ENFL 244. Molecular dynamics simulation of quaternary ammonium polycation exchange membrane fuel cell: Nanophase-segregated structure and transport properties. *M. White, S. Burch, S. Jiang*

ENFL 245. Synthesis of various metallic ultrathin nanowires for catalytic applications. *A. Scida, L. Li, C. Qin, S.S. Wong*

ENFL 246. Metal oxides as fullerene replacements in hybrid organic-inorganic solar cells. *M. Laitz, C. Dengiz, S. Lin, T.M. Swager, V. Bulovic*

ENFL 247. Estimation of characteristic curvature (Cc) of anionic surfactants for use in enhanced oil recovery (EOR). *W. Chanachalermwong, U. Suriyapraphadilok, A. Charoensaeang*

ENFL 248. Surface-modified Li₄Ti₅O₁₂ anode materials for lithium-ion batteries assisted by *in-situ* halogen gas. *Y. Cho, D. Han*

ENFL 249. Probing the electrocatalytic behavior of zigzag edges in holey graphene nanoplatelets. *Q. Li, K. Savaram, M. Li, K. Tajima, K. Takai, T. Hayashi, E.L. Garfunkel, V. Osipov, H. He*

ENFL 250. Local mass transport and product selectivity of electrochemical CO₂ reduction with gold nanopillar arrays. *B.A. Zhang, T. Ozel, J.S. Elias, C. Costentin, D.G. Nocera*

ENFL 251. PdCu alloy nanocatalysts for fuel cell reactions: A study of nanostructure-activity relationship. *Z. Wu, K. Park, T. Wong, S. Shan, N. Kang, J. Wang, J. Luo, V. Petkov, L. Wang, C. Zhong*

ENFL 252. Preparation and characterization of platinum-copper alloy nanowire catalysts with dendritic and (111)-dominant facets for oxygen reduction reaction. *Z. Kong, Z. Wu, S. Shan, S. Yan, J. Luo, G. Yu, C. Zhong*

ENFL 253. Graphene aerogel supported platinum and ruthenium electrocatalyst for unitized regenerative fuel cell. *J. Luo, W. Chen, R. Deng, K. Yeung*

ENFL 254. Phthalocyanine tethered iron phthalocyanine on graphitized carbon black as superior electrocatalyst for oxygen reduction reaction. *Z. Zhang, F. Wang*

ENFL 255. One-step conversion from Ni/Fe polyphthalocyanine to N-doped carbon supported Ni-Fe nanoparticles for highly efficient water splitting. *F. Wang, Z. Zhang*

ENFL 256. Towards high-performance biomass-derived electrocatalysts for oxygen reduction reaction: Inducing atomic-level reconstruction of Fe-N_x site for atomically dispersed Fe/N-doped hierarchically porous carbon. *H. Li, Z. Zhang, M. Dou, F. Wang*

ENFL 257. Potassium compound-assistant synthesis of multi-heteroatom doped porous carbon nanosheets for high performance supercapacitors. *M. Liu, F. Wang, Z. Zhang, M. Dou, J. Niu*

ENFL 258. Design Co-doped reduced graphene oxide nanocomposite and its application for supercapacitor electrode. *X. Mao, J. Xu*

ENFL 259. Biodegradable, electro-active chitin nanofiber films for flexible piezoelectric transducers. *K. Kim, H. Ko, J. Jin, S.J. Kang*

ENFL 260. Contorted polycyclic aromatic hydrocarbon: Application as lithium ion host electrode. *J. Park, S. Kwak, S. Ahn, S.J. Kang*

ENFL 261. Acoustic properties of different distribution in hydrate-bearing sediments. *L. Ren, Y. Qi, J. Chen, C. Sun, G. Chen*

ENFL 262. Atomic-level insight into oxygen adsorption on (hkl) platinum surfaces and implications for the reactivity in the oxygen reduction reaction. *S. Wang, E. Zhu, Y. Huang, H. Heinz*

ENFL 263. One-step conversion from core-shell metal-organic framework materials to cobalt and nitrogen co-doped carbon nano-polyhedra with hierarchically porous structure for highly efficient oxygen reduction. *M. Dou, Z. Hu, F. Wang*

ENFL 264. Study the hydrogen production mechanism of the multilayer core-shell MoS₂/CdS nanorods by the femtosecond transient absorption spectroscopy. *L. Du, Z. Yan, D.L. Phillips*

ENFL 265. Petroleum generation and expulsion characteristics of source rock. *Y. Zhang, Y. Wang, Q. Shi*

ENFL 266. Effects of mass transport and metal in N-doped carbon for oxygen reduction reaction. *S. Park, H. Shin, Y. Sung*

ENFL 267. Constructing high-efficiency MoO₃/polyimide hybrid photocatalyst based on strong interfacial interaction. *C. Ma, J. Zhou, H. Zhu, Y. Wang, Z. Zou*

ENFL 268. Synthetic design of a cellulose based nanocomposite anode to enhance the electron transfer of microbial fuel cells. *J.E. Lambert, N.E. Yuede, A.D. Dunne, J.J. Keleher*

ENFL 269. One-pot solution combustion synthesis of copper vanadates and their comparative analysis as photoanodes. *M.K. Hossain*

ENFL 270. Effect of pH on foams stabilized by nanoparticles for enhanced oil recovery using cationic surfactant-based extended surfactants. *P. Rattanadom, A. Charoensaeng, U. Suriyaphadilok, B.J. Shiau*

ENFL 271. Optimal middle phase microemulsion in foam and surfactant flooding. *S. Tantipalikul, U. Suriyaphadilok, A. Charoensaeng, B.J. Shiau*

ENFL 272. Environmentally friendly surfactant systems for enhanced oil recovery (EOR) in high brine condition. *T. Jampirakhan, A. Charoensaeng, U. Suriyaphadilok, B.J. Shiau*

ENFL 273. High surface area carbon adsorbents from furfurylamine-based polybenzoxazine for carbon dioxide adsorption: Effect of carbonization temperature. *T. Vongtiant, U. Suriyaphadilok, T. Chaisuwann*

ENFL 274. Molecular dynamics simulations of the formation of methane hydrates with poly(N-vinylpyrrolidone). *L. Cheng, J. Cui, B. Liu*

ENFL 275. Fabrication of metallic porous electrodes for redox batteries. *A. Farner-Cuenca, N. Linares, K. Greco, F. Brushett, J. Garcia Martinez*

ENFL 276. Hybrid titania-based multilayered photoelectrode for superior low temperature dye-sensitized solar cells. *E. Serrano, Á. Sepúlveda, E. Lalinde, J. Berenguer, R. Costa, J. Garcia Martinez*

ENFL 277. Volume expansion of CO₂ + hydrocarbon components. *X. Wu, H. Qin, B. Liu, G. Chen*

ENFL 278. Hierarchically organized and self-ordered TiO₂/SiO₂-Sulfur (Ti-Si-SUL) nanomaterial by hydrothermal process for high performance supercapacitor and hydrogen generation applications. *K. Jena, S. Al Hassan*

ENFL 279. High-power stacked micro energy storage device based on imprinted three-dimensional microelectrodes. *W. Li, T.L. Christiansen, C. Li, Y. Zhou, H. Fei, A. Mamakhal, B.B. Iversen, J.J. Watkins*

ENFL 280. Recovering methane from quartz sand-bearing hydrate by inhibitor using interval and continuous injection mode. *Y. Xie, Y. Wang, Y. Li, Z. Li, C. Sun, G. Chen*

ENFL 281. Solar-driven hydrogenation of CO₂ by mesoporous black TiO₂ supported isolated Au and Pd NPs. *L. Jin, J. He*

ENFL 282. Synthesis and characterization of indoloindeole-based p-type conjugated molecules. *H. Kang, D. Kim, K. Choi, S. Hong, S. Park, J. Kwon, S.Y. Park, B. An*

ENFL 283. Main chain of proton exchange membrane having excellent thermal stability and chemical stability via atom transfer radical polymerization. *X. Li, Y. Zhao, S. Wang, X. Xie*

ENFL 284. Surface reactivity of 2D molybdenum carbide. *T. Zhang, Y. Zheng, Y. Dong, P.H. McBreen*

ENFL 285. Noble metal free Co-Sn-Sx chalcogen hybrids for high performance hydrogen evolution. *D. Kim, S. Shinde, J. Lee*

ENFL 286. Understanding the roles of p-block dopants in carbonaceous electrocatalysts for oxygen reduction reaction: the relationship between catalytic activity and work function. *H. Shin, S. Park, Y. Sung*

ENFL 287. Direct observation of cathodic reaction in lithium-oxygen battery by *in situ* liquid phase transmission electron microscopy. *D. Lee*

ENFL 288. Evolution of the graphite crystal and electronic structure during operation as a positive electrode in dual intercalation lithium ion systems. *J.G. Lapping, J. Cabana, J.A. Read*

ENFL 289. High performance supercapacitor electrode material from immiscible PAN/6FDA-DABA polymer blends. *S. Panangala, C. Karunaweera, J.P. Ferraris*

ENFL 290. Microwave-enabled scalable fabrication of holey graphene nanoplatelets and their catalysis in reductive hydrogen atom transfer reactions. *K. Savaram, M. Li, K. Tajima, K. Takai, T. Hayashi, G.S. Hall, E.L. Garfunkel, V. Osipov, H. He*

ENFL 291. Microwave assisted carbon combustion for scalable fabrication of holey graphene nanoplatelets and their application in electrochemical generation of H₂O₂. *K. Savaram, A. Panich, J. Yang, M. Li, Z. Huma, E.L. Garfunkel, M. Chowalla, A. Shames, H. He*

ENFL 292. Probing the catalytic activity of Pd on porous carbon supports doped with phosphorus of different bond configurations. *J. McQuade, K. Savaram, H. He, H. Yang, M.A. Patel, A. Khoshji, Q. Li, E. Garfunkel*

ENFL 293. *In situ* fabrication of formamide lead bromide nanocrystals embedded porous PVDF nanocomposite films with enhanced piezoelectric and photosensitive performance. *S.K. Si*

ENFL 294. Enhanced surface area and binderless electrodes derived from PAN using citric acid as a porogen for high performance supercapacitors. *R. Jayawickramage, J.P. Ferraris*

ENFL 295. Novel one step microwave assisted fabrication of Sn₃P₃@ phosphorus doped carbon as a superior anode material for sodium ion batteries. *K. Savaram, X. Fan, H. Yang, B. Li, M. Modi, T. Gao, E.L. Garfunkel, C. Wang, H. He*

ENFL 296. Optimizing the use of single-walled carbon nanotube as electrolytes for dye-sensitized solar cell applications. *T. Hemraj-Benny, K. Urena, R.A. Sumner, M. Begliarbekov, V. Narang, J.F. Wishart, S.I. Lal-Ramnarine*

ENFL 297. Carbon nanofiber formation from supercritical carbon dioxide extraction tar/PAN via electrospinning. *X. He, F. Liu, M. Tang, M. Fan, T. Wang*

ENFL 298. Adsorption of monolayer films of imidazole on MgO (100) and graphite: A neutron scattering and molecular modeling investigation. *C.A. Crain, D. Paradiso, N.A. Strange, Z. Stroupe, F. Wahida, J.Z. Larese*

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Thermochemical & Biochemical Processes

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

Designing Polymers for Function in Electrochemical Energy Storage Devices

Dynamic Aspects of Macromolecular Structure & Function

Sponsored by PMSE, Cosponsored by ENFL

Analysis of Materials for Energy Storage

Sponsored by ANYL, Cosponsored by ENFL

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center Exhibit Hall B2/C

Sci-Mix

J. L. Liu, Organizer

8:00 – 10:00

10, 16, 18, 24, 27-28, 30, 51, 57, 69, 75, 81, 98, 102-103, 151, 161, 198, 202, 222, 224-226, 229-230, 234, 238, 243-246, 249, 250, 252. See previous listings.

304, 310, 357, 359-360, 363-364, 369-370, 402, 405, 407, 423, 429, 447, 470, 479, 500, 529, 530-531, 553. See subsequent listings.

TUESDAY MORNING

SECTION A

Renaissance Boston Waterfront Brewster

Biomass to Energy, Chemicals & Functional Materials

R. Huang, Organizer

M. A. Carreon, H. Zhou, Organizers, Presiding

7:55 Introductory Remarks.

8:00 ENFL 299. Catalytic fast pyrolysis of pine with ZSM-5 in a spouted bed reactor: Effects of temperature and vapor concentration on catalyst deactivation. *A. Starace, E.O. Romero, V.S. Bharadwaj, B. Pecha, P.N. Ciesielski, C. Mukarakate*

8:20 ENFL 300. Upgrading of rice straw catalytic pyrolysis oil via single stage esterification/hydrodeoxygenation. *M. Jamshidi*

8:40 ENFL 301. Role of cellulose and lignin in catalyst deactivation during catalytic fast pyrolysis over HZSM-5. *K. Lisa, A. Stanton, C. Mukarakate, M.R. Nimlos*

9:00 ENFL 302. Insight into the synergism of catalytic co-pyrolysis of deuterated glucose and PP by tracing the hydrogen transfer. *J. Xue, Z. Jiankun, D. Zhang, Q. Yao*

9:20 Intermission.

9:35 ENFL 303. High purity H₂ production from hemicellulose with carbon capture via alkaline thermal treatment in the presence of group I & group II hydroxides and a Ni/ZrO₂ catalyst. *K. Zhang, W. Kim, Z. Wang, A.A. Park*

9:55 ENFL 304. Comparison of chicken-litter waste and rice husk pyrolysis under concentrated solar radiation. *H. Weldekidan, V. Strezov, T. Kan, G. Town*

10:15 ENFL 305. Modeling structure and fast pyrolysis of biomass. *W. Li, R. Mabon, A.Y. McKay, X. Zhou, L.D. Dellon, L.J. Broadbelt*

10:35 ENFL 306. Pyrolysis of polycarbonate-based polymer waste into useful chemical products. *M.N. Siddiqui, H.H. Redhwi, D. Achilias*

SECTION B

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon A

Nanomaterials & Nanotechnology in Oil & Gas Industry

C. Huh, Organizer

S. Chang, M. Poitzsch, W. Wang, Organizers, Presiding

7:55 Introductory Remarks.

8:00 ENFL 307. Engineered nanoparticles for oilfield applications: Recent advances. *V. Khabashesku, O. Kuznetsov, D. Agrawal, S. Murugesan, R. Suresh, R. Dolog, M. Vasilyev*

8:30 ENFL 308. Improving fluid catalytic cracking performance using heat generating materials. *M.P. Kaminsky, W. Xu, O. Ali, Y. Hussein, S. Shaikh*

8:50 ENFL 309. Study of thermal stability and rheological properties of silica nanoparticle-stabilized microemulsions for enhanced oil recovery. *I. Kim, V. Sergeev*

9:10 ENFL 310. Highly steam stable covalent bonded amine modified carbon nanotubes for CO₂ capture. *Z. Zhou, K.J. Stowers*

9:30 Intermission.

9:50 ENFL 311. Colloidal stability and transport of polysaccharide-coated magnetic nanoparticles. *R. Shi, H. Ow, A.A. Kmetz, H. Chen, J. Cox*

10:10 ENFL 312. Calcium-mediated adhesion in high salinity reservoir fluids. *S.L. Eichmann, H. Chen, N. Burnham*

10:30 ENFL 313. Enhanced methanol-to-olefins catalysis: Synthesis and applications of nano-sized, sheet-like and hierarchical SAPO-34 zeolites. *D. Jiajia, L. Hongxing, X. Zaiku, Y. Weimin*

10:50 ENFL 314. Transport of reservoir nanoagents into dead pores under phoretic drivers. *M. Kanj*

SECTION C

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon D

Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Andrew Herring

Cosponsored by PROF

R. E. Winans, Organizer

L. F. Greenlee, Organizer, Presiding

7:55 Introductory Remarks.

8:00 ENFL 315. Norbornene based multiblock anion conducting membranes. *P. Kohl, M. Mandal, G. Huang*

8:30 ENFL 316. New ion-exchange membranes derived from polyketone. *V. Di Noto, K. Vezzu, F. Bertasi, E. Negro, G. Cavinato*

9:00 ENFL 317. Anion exchange membranes based on polyolefin backbones. *M.A. Yandrasits, E.H. Fort, C. Laskowski, T. Gillard, Z.R. Owczarczyk, B.S. Pivovar*

9:30 ENFL 318. Polymer membranes: Designing next generation separators and transport mediators for energy generating devices. *E.B. Coughlin*

10:00 Intermission.

10:05 ENFL 319. Development of perfluorinated anion exchange membranes for energy conversion devices. *B.S. Pivovar, D. Strasser, H. Long, A. Neyerling, Z.R. Owczarczyk*

10:35 ENFL 320. Ionomer thin films in catalyst layers. *A. Kusoglu*

11:05 ENFL 321. Novel liquid-like nanoscale hybrid materials with tunable chemical and physical properties as dual-purpose reactive media for combined carbon capture and conversion. *M. Gao, T.G. Feric, A.A. Park*

11:30 ENFL 322. High-temperature alkaline waer electrolysis. *H. Xu*

SECTION D

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon E*

Sustainable Energy Conversion via Innovative Electrocatalysis & Photocatalysis

F. Jiao, Y. Shao, G. Wu, Organizers, Presiding

7:55 Introductory Remarks.

8:00 ENFL 323. Coupling solar energy into catalytic CO₂ conversion. *Y. Xiong*

8:30 ENFL 324. Theoretical investigations in CO₂ electrochemical reduction. *K. Chan*

8:50 ENFL 325. Earth-abundant transition metal electrocatalysts for selective CO₂ reduction in water. *H. Wang*

9:10 ENFL 326. 2D bismuth nanostructures for electrocatalytic CO₂ reduction to formate. *Y. Li*

9:40 Intermission.

9:55 ENFL 327. Investigating CO-electrolysis as a path to feasibility for electrochemical reduction of CO₂ to value-added intermediates. *P.J. Kenis*

10:25 ENFL 328. Quantum mechanics based reaction mechanisms for electrocatalysis on systems for sustainability. *W.A. Goddard*

11:00 ENFL 329. Carbon monoxide gas diffusion electrolysis. *M. Kanan*

11:30 ENFL 330. Chemically tunable, all-inorganic-based novel 0D-1D heterostructures for white-light emitting applications. *S. Yue, Y. Zhou, S. Zou, L. Wang, H. Liu, S.S. Wang*

SECTION E

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon B*

USA-China Symposium on Energy

Solar, Photocatalysis & Electrocatalysis

Y. H. Hu, F. Jin, X. Wang, Organizers, Presiding

8:25 ENFL 331. Trimetallic NiFeMo for overall electrochemical water splitting with a low cell voltage.

J. Bao, F. Qin, Z. Zhao, M. Alam, Y. Ni, F. Robles-Hernandez, L. Yu, S. Chen, Z. Ren, Z. Wang

8:50 ENFL 332. Synthesis of size and shape-controlled nanocrystals for photocatalysis and electrocatalysis.

C.B. Murray, J.D. Lee, M. Cargnello, S. Zhang, N. Gogotsi, J.B. Baxter, K.C. Elbert, V.V. Doan-Nguyen

9:25 ENFL 333. Solar energy applications: From heavy metals towards metal-free. *D. Ma*

10:00 Intermission.

10:10 ENFL 334. Surface stabilized organo-metal halide perovskite quantum dots and films for solar energy conversion and LED applications. *J.Z. Zhang*

10:45 ENFL 335. Semiconductor heterojunctions for solar water splitting. *N. Wu*

11:20 ENFL 336. Photocatalytic conversion of glucose into formate. *B. Jin, G. Yao, H. Zhong, X. Wang, F. Jin*

11:40 ENFL 337. Understanding the dynamics of excited states in energy materials. *A.V. Akimov*

SECTION F

*Renaissance Boston Waterfront
Spectacle*

Novel Catalytic Materials

Frontier Catalysts Progress

M. C. Beard, A. B. Bocarsly, Y. Yan, Organizers

J. Gu, F. Lin, Organizers, Presiding

8:25 Introductory Remarks.

8:30 ENFL 338. Copper-free metallic catalysts for the reduction of CO₂ to a broad spectrum of organic products.

A.B. Bocarsly, A. Paris, S. Francis

9:00 ENFL 339. Nano-structured photocatalysts for nitrogen and carbon dioxide reduction. *J. Huang*

9:20 ENFL 340. Metal organic framework catalysts: Opportunities and challenges. *S. Lin, A.J. Morris*

9:40 ENFL 341. Converting CO₂ into something useful. *C.P. Berlinguette*

10:10 Intermission.

10:20 ENFL 342. Catalytic materials for artificial photosynthesis. *C. Li*

10:50 ENFL 343. Understanding and engineering surface electrons for electrocatalysis. *Y. Liu*

11:10 ENFL 344. Photocatalytic NADH-analog systems for fuel-forming reactions. *K. Glusac*

11:40 ENFL 345. Two-dimensional gold honeycomb superstructure. *X. Wu, Z. Quan*

SECTION G

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon C*

Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage

Electrode Materials & Architectures

J. Liu, H. Pan, X. Yu, Organizers

X. Ji, Organizer, Presiding

G. P. Demopoulos, Presiding

7:55 ENFL 346. Some new considerations of topochemistry for batteries beyond lithium. *X. Ji*

8:25 ENFL 347. Model cation hosts for energy storage: Using synthetic control to elucidate the impact of composition, defects, and crystallite size for tunnel structured materials. *K.J. Takeuchi, A.C. Marschilok, E.S. Takeuchi*

8:45 ENFL 348. Crystal engineering energy storage into 3D architectures. *D.R. Rolison, M.D. Donakowski, M.B. Sassin, J.M. Wallace, K.W. Chapman, C.N. Chervin, A.N. Mansour, J.W. Long*

9:05 Intermission.

9:25 ENFL 349. Nanocrystal engineering of lithium iron orthosilicate cathodes for improved reversible-stable storage and rate capability. *G.P. Demopoulos, Y. Zeng, M. Rasool, H. Wei, H. Chiu, R. Gauvin, J. Zhou, K. Zaghib*

9:55 ENFL 350. Computational study of LiNi_{0.5}Mn_{1.5}O₄ spinel surface properties including transition metals dissolution. *N. Intan, K. Klyukin, V. Alexandrov*

10:15 ENFL 351. Changes in electronic structure upon Li deintercalation from LiCoPO₄ derivatives. *J.G. Lapping, S.A. Delp, J. Allen, J.L. Allen, J.W. Freeland, M. Johannes, L. Hu, D.T. Tran, R. Jow, J. Cabana*

10:35 ENFL 352. Understanding the formation of the truncated morphology of high-voltage spinel LiNi_{0.5}Mn_{1.5}O₄ via direct atomic-level structural observations. *L. Ben, B. Chen, X. Huang*

10:55 ENFL 353. Evaluation of electrolyte additives on gas formation and electrochemical performance in high voltage lithium-ion batteries with Ni-rich NMC cathodes. *C. Mao, R. Ruther, Z. Li, T. Christensen*

SECTION H

*Renaissance Boston Waterfront
Atlantic Ballroom 1*

Nanoscience of Energy Storage

Multifunctional Materials for Supercapacitors, Pseudocapacitors & Batteries

J. L. Schaefer, Organizer

B. Gurkan, Organizer, Presiding

8:25 Introductory Remarks.

8:30 ENFL 354. Expressing battery-like and pseudocapacitive charge storage in MnOx@carbon electrode architectures via control of nanocrystalline oxide structure and electrolyte composition. *J.W. Long, J.S. Ko, M.B. Sassin, J.F. Parker, D.R. Rolison*

9:10 ENFL 355. High power and high energy density carbon nanotube/transition metal oxide nanoarchitectures via electrodeposition. *V. Augustyn*

9:40 ENFL 356. High specific capacitance pseudocapacitance electrodes based on core-shell carbon @ copper sulfides networks composed of interconnected spherical nanoparticles. *X. He, J. Xu, X. Mao, W. Yang, Y. Yang*

10:05 Intermission.

10:15 ENFL 357. Imprinted three-dimensional lithium-ion microbattery with supercapacitor-like power density. *W. Li, T.L. Christiansen, C. Li, Y. Zhou, H. Fei, A. Mamakhel, B.B. Iversen, J.J. Watkins*

10:45 ENFL 358. Tunnel manganese oxide nanowires as battery electrodes. *E. Pomerantseva*

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Hydrogen, Biofuels & Biomass Upgrading

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

TUESDAY AFTERNOON

SECTION A

*Renaissance Boston Waterfront
Brewster*

Biomass to Energy, Chemicals & Functional Materials

R. Huang, Organizer

M. A. Carreon, H. Zhou, Organizers, Presiding

1:55 Introductory Remarks.

2:00 ENFL 359. Biomass conversion using boronic acids: Efficient transformation of carbohydrates into furanics.

B. Graham, R.T. Raines

2:20 ENFL 360. Identification and quantification of phenolic monomers (chemicals) from the alkali lignin (biomass) using gas chromatography mass-spectrometry (GC-MS).

B. Jadhav, D.E. Raynie

2:40 ENFL 361. Synthesis of high-density jet fuels using lignocellulose-derived feedstocks. *G. Nie, J. Zou, L. Pan, X. Zhang*

3:00 ENFL 362. Mechanism study of production of cyclohexanol/cyclohexanone from lignin-derived guaiacol catalyzed by palladium on high-surface-area ceria at mild conditions. *H. Zhou, P. Naik, I.I. Slowing, A.D. Sadow*

3:20 Intermission.

3:35 ENFL 363. Biorefinery lignin valorization through carbon-hydrogen activation (CHA) using transition-metal catalysts. *E.C. Zuleta Suarez, J.J. Bozell*

3:55 ENFL 364. Effect of a ring-and-puck mill on the two-step oxidative lignin deconstruction approach. *Z. Fang, M.S. Meier, J.K. Mobley*

SECTION B

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon A*

Nanomaterials & Nanotechnology in Oil & Gas Industry

C. Huh, Organizer

S. Chang, M. Poitzsch, W. Wang, Organizers, Presiding

1:55 Introductory Remarks.

2:00 ENFL 365. Homogeneous nanocomposite membranes with improved properties in natural gas processing.

B.J. Sundell, K. Zhang, W.S. Chi, D.J. Harrigan, Z.P. Smith

2:50 ENFL 366. Silica assisted polymer flooding to enhance residual oil recovery. *R. Saha, R.V. Uppaluri, P. Tiwari*

3:10 ENFL 367. Drilling fluids comprising graphene derivatives to enhance particulate suspension under high temperature and pressure. *A. Santra*

3:30 Intermission.

3:50 ENFL 368. Nanocomposite coating of Saudi sand for fracturing applications. *M.H. Haque, M. Sayed, R. Saini*

4:10 ENFL 369. Probing metal-organic framework (MOF) design for adsorptive natural gas purification. *J.N. Joshi, G. Zhu, J. Lee, E.A. Carter, C.W. Jones, R.P. Lively, K.S. Walton*

4:30 ENFL 370. Highly stable scCO₂-high salinity brine interface for waterless fracturing using polyelectrolyte complex nanoparticles. *H. Hosseini, J. Tsau, E.F. Peltier, R. Barati Ghahfarokhi*

4:50 Concluding Remarks.

SECTION C

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon D*

Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Andrew Herring

Cosponsored by PROF

L. F. Greenlee, *Organizer*

R. E. Winans, *Organizer, Presiding*

1:00 ENFL 371. Benchmarking materials for water splitting: Making appropriate comparisons. *K.E. Ayers*

1:25 ENFL 372. Biomolecular approaches to electrode engineering: Facilitating electrochemical production of renewable fuels. *J. Renner, L.F. Greenlee, K.E. Ayers, Z. Su, C. Loney*

1:50 ENFL 373. Photoelectrochemical CO₂ reduction at plasmonic nanostructured silver electrodes. *E.B. Creel, E.R. Carson, Y. Kim, D. Perez, M. Liu, J. Urban, R. Kostecki, B.D. McCloskey*

2:15 ENFL 374. Transport phenomena in redox-flow-battery separators. *A.Z. Weber*

2:40 ENFL 375. Role of interfacial phenomena in gas hydrate energy applications. *C.A. Koh, E. Brown, J.A. Dapena, S. Liu, A.A. Majid, D.C. Salmin, L. Zerpa*

3:05 Intermission.

3:10 ENFL 376. Advanced materials opportunities in redox flow batteries. *M.L. Perry*

3:35 ENFL 377. From hydrogen containment to electrical energy storage. *G.P. Pez, A.M. Herring*

4:00 ENFL 378. Iron and manganese mediated heteroatom rebound catalysis. *J.T. Groves*

4:25 ENFL 379. Converting fuels to electrical energy and electrical energy to fuels, enabled by advancements in polymer electrolyte membranes. *A.M. Herring*

SECTION D

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon E

Sustainable Energy Conversion via Innovative Electrocatalysis & Photocatalysis

F. Jiao, Y. Shao, G. Wu, *Organizers, Presiding*

1:55 ENFL 380. Effect of stoichiometry and architectural expression on the activity of oxygen reduction and evolution electrocatalysts. *D.R. Rolison, J.S. Ko, C.N. Chervin, M.N. Vila, P.A. DeSario, J.F. Parker, J.W. Long*

2:35 ENFL 381. Carbon-based catalysts for oxygen reduction and oxygen evolution reactions in acidic media. *U.S. Ozkan*

3:15 ENFL 382. Electronic and structural engineering of active sites for efficient non-precious metal electrocatalysts. *J. Hu*

3:45 Intermission.

3:55 ENFL 383. Identification of active species and mechanisms in non-precious metal oxygen reduction catalysts. *A.A. Gewirth, J. Varnell*

4:35 ENFL 384. Atomically dispersed iron catalysts for oxygen reduction in acids. *G. Wu*

5:05 ENFL 385. Covalent organic polymers for electrocatalysis. *Z. Xiang*

5:35 ENFL 386. Charge transfer capacity as screening rule of electrocatalysts in charge reactions of Li-O₂ batteries. *J. Liu*

SECTION E

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon B

USA-China Symposium on Energy

Solar, Photocatalysis & Electrocatalysis

Y. H. Hu, F. Jin, X. Wang, *Organizers, Presiding*

Z. Yao, *Presiding*

1:55 ENFL 387. Soft x-ray spectroscopic studies of interfacial electronic structure in small molecule organic solar cells. *K.E. Smith, T. Jones, S. Cho, L. Piper, N. Beaumont*

2:30 ENFL 388. Ultrafast carrier dynamics in kesterite and perovskite photovoltaic absorber materials. *J.B. Baxter*

2:55 ENFL 389. Structural modulation and surface chemistry in photocatalysis. *C. Wang, R. Hailili*

3:30 Intermission.

3:40 ENFL 390. Solving the lead halide perovskite puzzle. *X. Zhu*

4:15 ENFL 391. Organic materials for applications in energy science. *C.P. Nuckolls*

4:50 ENFL 392. Electrocatalysis at buried interfaces. *D.V. Esposito*

SECTION F

Renaissance Boston Waterfront

Spectacle

Novel Catalytic Materials

Frontier Catalysts Progress

Cosponsored by CATL

A. B. Bocarsly, J. Gu, F. Lin, *Organizers*

M. C. Beard, Y. Yan, *Organizers, Presiding*

1:25 Introductory Remarks.

1:30 ENFL 393. Mechanisms of CO₂ reduction in quantum dot-porphyrin complexes and superstructures. *E.A. Weiss, S. Lian, J. Hong, L. Chen*

2:00 ENFL 394. Lead-halide perovskites for photocatalytic organic synthesis. *Y. Yan*

2:30 ENFL 395. Nano-catalytic C-H activation and oxidative cross-coupling. *A. Lei*

3:00 ENFL 396. Photocatalysis with colloidal semiconductor quantum dots: teaching an old dot new tricks. *T.D. Krauss, R. Burke, J. Caputo, N. Cogan, L. Frenette, F. Qiu, C. Liu, K.L. Sowers, D. Weix*

3:30 Intermission.

3:40 ENFL 397. Photoredox catalysis strategies for complex molecules. *C. Stephenson*

4:10 ENFL 398. High theoretical conversion efficiencies using tandem cells that employ carrier multiplication for photochemical water splitting applications. *M.C. Beard*

4:40 ENFL 399. Plasmonic imaging technique for high-throughput OER catalytic material screening. *X. Shan, X. Yang*

5:00 ENFL 400. Structural and mechanistic aspects of CO₂ electroreduction on N-doped carbon electrodes. *D. Hursan, A. Samu, C. Janaky*

SECTION G

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon C

Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage

Electrode Materials & Architectures

J. Liu, H. Pan, X. Yu, *Organizers*

X. Ji, *Organizer, Presiding*

X. Yang, *Presiding*

1:25 ENFL 401. High-throughput *ab-initio* screening of electrolytes for Ni-rich oxide materials in Li-ion batteries. *D. Kim, I. Park, Y. Kang, M. Koh*

1:45 ENFL 402. Multi-scale chemical microscopy of reaction inhomogeneities in LiNi_{0.8}Co_{0.15}Al_{0.05}O₂ cathode primary particles. *M.F. Wolfman, Y. Yu, B.M. May, Z.W. Lebens-Higgins, S. Sallis, N. Faenza, N. Pereira, N. Shirato, V. Rose, D.A. Shapero, G. Amatucci, L. Piper*

2:05 ENFL 403. Optimization of aqueous Ni-rich NMC cathode formulation for improved electrochemical performance. *M. Wood, Z. Du, J. Li, D.L. Wood*

2:25 ENFL 404. Simple method for molecular level modification of Ni-rich layered oxide cathode for lithium-ion batteries using metal-organic frameworks. *J. Park, C. Byungjin, P. Kwangjin, K. Lee, S. Park, J. Park, H. Han*

2:45 Intermission.

3:05 ENFL 405. Preparation of mesocarbon microbead (MCMB) from low temperature coal tar pitch and its supercritical fluid extraction fractions. *Z. Dekai*

3:25 ENFL 406. Direct *operando* quantification of active components (de)lithiation ratios in silicon/graphite composite high-capacity anodes for Li-ion batteries. *K.P. Yao, K. Kalaga, J. Okasinski, J. Almer, D. Abraham*

3:55 ENFL 407. Facile synthesis of Si@void@C nanofibers using a self-powered electrospinning system as anodes for lithium-ion batteries. *Y. Han, S. Xu*

4:15 ENFL 408. Silicon nanoparticle surface modification for lithium-ion battery. *S. Jiang, B. Hu, L. Zhang, B. Zhao, Z. Zhang*

SECTION H

Renaissance Boston Waterfront

Atlantic Ballroom 1

2018 Energy & Fuels Joint Award for Excellence in Publication: Symposium in honor of Fateme Rezaei

Cosponsored by PROF and WCC³

D. Dadyburjor, E. B. Fox, *Organizers*

M. Kidder, *Organizer, Presiding*

1:20 Introductory Remarks.

1:30 ENFL 409. Cerium dioxide catalyst nanorods decorated three-dimensional nitrogen doped and reduced graphene oxide electrodes for Li-air batteries. *A. Tadmimir, E. Bicer, S. Gursel, A. Yurum*

2:00 ENFL 410. 3D-printed monolithic adsorbents for CO₂ capture applications. *H. Thakkar, F. Rezaei, A. Rowanaghi*

2:30 ENFL 411. Zwitterionic copolymers for next-generation membranes for treating complex wastewater streams. *A. Asatekin*

3:00 Intermission.

3:10 ENFL 412. Engineering porous polymer hollow fiber microfluidic reactors for sustainable chemical transformation. *A.A. Rowanaghi, H. YingXin*

3:40 ENFL 413. Tuning catalytic material design of zeolites and mesoporous materials to increase catalytic selectivity. *N.A. Brunelli, N. Deshpande, M. Whitaker, A. Parulkar*

4:10 ENFL 414. Carbon supported nanoparticles used to improve fuel cells performance. *S. Wang, V. Li, J.L. Liu*

4:30 ENFL 415. MOF-GO hybrid nanocomposite adsorbents for methane storage. *F. Rezaei*

5:15 Concluding Remarks.

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Biochars & Renewable Carbons

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

WEDNESDAY MORNING

SECTION A

Renaissance Boston Waterfront

Brewster

Biomass to Energy, Chemicals & Functional Materials

H. Zhou, *Organizer*

M. A. Carreon, R. Huang, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 416. Heteroatom jet fuel components: Lichen substances as fuel component and potential additives. *P. Sharma*

8:20 ENFL 417. Chemometric analysis of hydrocarbon reference materials for certification as aircraft fuels. *D.A. Sheen, W. Rocha*

8:40 ENFL 418. Biodiesel production from cooking oil in intensified contactors. *P. Angeli, D. Tsaoulidis*

9:00 ENFL 419. Ethers derived from biobased carboxylic acids as a blendstock for diesel fuel. *N.A. Huq, X. Huo, P. St. John, S. Kim, R.L. McCormick, D. Vardon*

9:20 Intermission.

9:35 ENFL 420. Quality characteristics of automotive diesel with ethanol and butanol blends. *D. Karonis, I. Zahos-Siagos*

9:55 ENFL 421. Filling the technical and economic gap between cellulosic ethanol and corn ethanol by dry biorefining technology. *J. Bao*

10:15 ENFL 422. Integrated biorefinery concept for conversion of sugar beet pulp into fuels and value-added chemicals. *G. Lye*

10:35 ENFL 423. Conversion of solid waste to diesel via catalytic pressure-less depolymerization: Pilot scale production and detailed compositional characterization. *P.P. Plehiers, A. Gonzalez-Quiroga, M. Djokic, K. Van Geem, G.B. Marin*

SECTION B

Renaissance Boston Waterfront

Pacific Grand Ballroom Salon A

Nanomaterials & Nanotechnology in Oil & Gas Industry

C. Huh, *Organizer*

S. Chang, M. Poitzsch, W. Wang, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 424. Overview of the advanced energy consortium for oilfield nanotechnology. *D.T. Chapman*

8:30 ENFL 425. Noble vanadium core-shell catalysts for methane oxidation to formaldehyde. *K. An*

8:50 ENFL 426. Mitigation of condensate and water blockage in gas reservoirs using surface modified nanoparticles. *M. Sayed, H. Ow, F. Liang*

9:10 ENFL 427. Enhanced PAM polymer gels using zirconium hydroxide nanoparticles for water shutoff at high temperatures. *A. Fathima, A. Almohsin, M.A. Bataweel, E.H. Alsharaeh*

9:30 Intermission.

9:50 ENFL 428. Functional swellable elastomers for oilfield applications. *H. Tu*

ENFL

10:20 ENFL 429. Experimental study of spontaneous imbibition by using modified nanoporene for enhanced oil recovery in sandstones cores at various temperatures. *S. Farad, T.L. Montoya, N. Nassar, G. Vitale*

10:40 ENFL 430. Application of cellulosic nanocrystals (CNC) for fluid diversion in heterogeneous carbonate reservoirs. *O. Wani, M. Shoaib, S. Al Hassan*

11:00 Concluding Remarks.

SECTION C

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon D

International Symposium on Mesoporous Zeolites

J. Garcia Martinez, K. Li, *Organizers*
M. Ostraat, *Presiding*

8:20 Introductory Remarks.

8:30 ENFL 431. Development of catalytic processes through fundamental understanding of the structure and chemistry of porous catalysts. *M. Stockenhuber*

9:20 ENFL 432. Unexpected long walks in hierarchical porous materials with combined surface and configurational diffusion. *W. Fan*

10:10 Intermission.

10:30 ENFL 433. Preparation pathways of hierarchical zeolites: A comparative discussion. *W. Schwieger, A. Machoke, T. Weibenberger, A. Inayat, M. Hartmann*

11:20 ENFL 434. Efficient and stable mesoporous zeolite-supported metal catalysts. *F. Xiao*

12:00 Concluding Remarks.

SECTION D

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon E

Sustainable Energy Conversion via Innovative Electrocatalysis & Photocatalysis

F. Jiao, Y. Shao, G. Wu, *Organizers, Presiding*

7:55 ENFL 435. Fundamental aspects of regenerative hydrogen electrocatalysis in alkaline pH. *S. Mukerjee, Q. Jia*

8:35 ENFL 436. Oxygen electro-adsorption on oxides shows evidence for scaling relations and insights for oxygen-evolution catalyst design. *D. Kuo, J. Nelson, H. Paik, K. Shen, D. Schlom, J. Suntivich*

9:05 ENFL 437. Electrocatalytic and photoelectrochemical water splitting using earth-abundant catalysts. *S. Jin*

9:35 ENFL 438. Mechanistic studies of OER on gold electrode by interfacial specific vibrational spectroscopy. *F. Gerke, M. Wolf, R.K. Campen, Y. Tong*

10:05 Intermission.

10:15 ENFL 439. Recent development of high-performance ternary oxide electrocatalysts for oxygen evolution reaction. *H. Yang*

10:55 ENFL 440. Catalysts and processes for hydrogen production. *Y.H. Hu*

11:25 ENFL 441. Insights into SrIrO₃-based perovskite oxides as highly efficient oxygen evolution reaction catalysts in acidic electrolytes. *Z. Feng*

SECTION E

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon B

Sustainable Bioenergy Production

P. Le, *Organizer*

X. Fang, J. Fu, J. P. Smith, B. Yoza, *Organizers, Presiding*

8:25 Introductory Remarks.

8:30 ENFL 442. Factors influencing the electrochemical reduction of CO₂ on Cu. *A.T. Bell*

8:50 ENFL 443. Challenges and countermeasures of biomass in the transition of energy and chemical industry. *X. Fang*

9:10 ENFL 444. Levels of trace metals and polynuclear aromatic hydrocarbons (PAHs) in Nigerian coal and coal smoke. *P.O. Ogbuagu*

9:30 ENFL 445. Regional supply chain analysis for alternative jet fuel production in the tropics. *S.Q. Turn, R.M. Ogoshi, W. Chan, J. Fu, T. Morgan*

9:50 ENFL 446. Novel seaweed conversion to H₂ with suppressed CO₂ formation via catalytic alkaline thermal treatment with integrated carbon capture. *W. Kim, K. Zhang, A.A. Park*

10:10 Intermission.

10:25 ENFL 447. Determining kinetic parameters of hydrogen abstraction from novel biofuel candidates through automated transition state theory calculations. *N. Harms, R.H. West*

10:45 ENFL 448. Ultrasound-assisted transesterification of non-edible mixed oil feedstock with heterogeneous catalyst. *R.S. Malani, S. Pradhan, A. Goyal, V. Moholkar*

11:05 ENFL 449. Effect of nitrogen medium concentration on cell growth and lipid composition of *Nannochloris eucaryotum*. *E. Legaard, J.K. Gerardi, T. Sultana, B.C. Eigenbrodt*

11:25 ENFL 450. Stabilities of biodiesel derived from rubber seed oil. *J. Fu, S.Q. Turn, P. Le*

11:45 ENFL 451. Synthesis of alumina-silica from rice husk ash as catalyst in hydrodeoxygenation of rubber seed oil to green diesel. *T. Tran, P. Le*

12:05 Concluding Remarks.

SECTION F

Renaissance Boston Waterfront
Spectacle

Novel Catalytic Materials

Developments for Fuel Generation & Energy Storage

M. C. Beard, A. B. Bocarsly, Y. Yan, *Organizers*

J. Gu, F. Lin, *Organizers, Presiding*

7:55 Introductory Remarks.

8:00 ENFL 452. Isolated Ni single atoms in graphene matrices for high-performance CO₂ reduction. *K. Jiang, H. Wang*

8:20 ENFL 453. AIE-active rhenium(II) complexes: Photophysics and application for efficiently photocatalytic reduction of CO₂. *X. Zhu, Y. Lin, Y. Sun, Y. Yan*

8:40 ENFL 454. Solution-processable polymer photocatalysts for hydrogen evolution from water. *D. Woods, R. Sprick, A.I. Cooper*

9:00 ENFL 455. Molecular design and development of novel efficient non-mercury catalysts for acetylene hydrochlorination. *Y. Han, Y. Wang, Y. Nian, S. Shang, J. Zhang*

9:20 ENFL 456. Isomerization performance of n-alkanes over nano-platinum/SAPO-11 catalyst. *S. Gao, Z. Zhao, Y. Liu, S. Hu, A. Duan, F. Sun, K. Chi, M. Tan, W. Zhang*

9:40 ENFL 457. Enhancement of catalytic activity of oxygen carrier Mg₂MnO₈ via tuning oxygen vacancies during chemical looping processes. *C. Zhou, D.S. Baser, S.G. Nadgouda, L. Qin, J.A. Fan, L. Fan*

10:00 Intermission.

10:15 ENFL 458. Bioinspired oxygen reduction using metallopolymers containing multi-Cu(II) active sites. *L. Jin, S. Thanneeru, J. He*

10:35 ENFL 459. Highly active and selective catalyst for selective hydrogenation: Boron-doped graphene nanosheets-supported Pt. *Z. Yao, M. Hu, X. Wang*

10:55 ENFL 460. Direct growth of nitrided carbon supported ultrasmall AuPd bimetallic nanoparticles with enhanced electrocatalytic activity towards ethanol oxidation. *Y. Yang, L. Jin, B. Liu, P. Kerns, J. He*

11:15 ENFL 461. PtSn nanocatalysts supported on hollow silica sphere for acetic acid hydrogenation: Effect of nitrogen dopant. *J. Zhou, Y. Zhao, J. Zhang, Y. Wang, O.Y. Gutiérrez, S. Wang, Z. Li, P. Jin, S. Wang, X. Ma, J.A. Lercher*

11:35 ENFL 462. Functional carbo-catalysts for selective production of advanced fuels. *B. Saha, S. Dutta, D. Gupta*

SECTION G

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon C

Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage

Electrode Materials & Architectures

X. Ji, J. Liu, X. Yu, *Organizers*

H. Pan, *Organizer, Presiding*

E. S. Takeuchi, *Presiding*

7:55 ENFL 463. Innovating materials for sodium-ion electrodes: Pathways to progress. *N.E. Drewett, E.C. Gonzalo, N. Orrtiz-Vitoriano, P. Sánchez-Fontecoba, B. Orayech, D. Saurer, T. Rojo*

8:25 ENFL 464. Development of new materials for Na-ion batteries. *Y. Hu*

8:55 ENFL 465. Reversible hysteresis phenomenon in sodium ion batteries. *X. Li*

9:15 ENFL 466. Analysis and deliberate modification of the solid electrolyte interphase (SEI): Impact on electrochemistry. *E.S. Takeuchi, A.C. Marschloek, K.J. Takeuchi*

9:45 Intermission.

10:05 ENFL 467. Kinetics-controlled degradation reactions at LiPON/Li(x)CoO(2) and LiPON/Li-metal interfaces. *K. Leung, A. Pearce, A.A. Talin, E.J. Fuller, G. Rubloff, N.A. Modine*

10:25 ENFL 468. Functional energy storage devices for smart integrated systems. *X. Feng*

10:55 ENFL 469. Polymer/molecular sieve hybrid flexible membrane with enhanced thermal and wetting properties for high-performance lithium-ion batteries. *J. Zhang, Q. Zhang, X. Zhan, F. Chen*

11:15 ENFL 470. Exfoliated graphite sheet with superior supercapacitive performance. *R. Tamgadge, A. Shukla*

SECTION H

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F

Nanoscience of Energy Storage

Materials for Magnesium Batteries

B. Gurkan, *Organizer*

J. L. Schaefer, *Organizer, Presiding*

8:55 Introductory Remarks.

9:00 ENFL 471. Decoupling electrolyte anion and solvent effects in magnesium electrodeposition for rechargeable batteries. *K.R. Zavadil, N. Hahn, N.N. Rajput, K. Persson, V. Murugesan*

9:30 ENFL 472. Electrolyte additives for rechargeable magnesium battery design. *N. Sa, B. Basanty, Y. Ren, J.T. Vaughey*

10:00 ENFL 473. Magnesium deposition from sulfone-ether electrolytes. *L.C. Merrill, J.L. Schaefer*

10:30 Intermission.

10:45 ENFL 474. Cycling, failing, and protection of alkaline metal electrodes for high energy rechargeable batteries. *H. Wang*

11:15 ENFL 475. Stabilizing Mg/S rechargeable batteries using nano-structured additives. *Y. Bi, J. Luo, B. Hu, T. Liu*

11:45 ENFL 476. Influence of conductive polymer surface layers on nanostructured MnO₂ cathodes for magnesium batteries. *E. Sahadeo, H.K. Henry, S. Lee*

Catalysis for Environmental & Energy Applications

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

Electrical/Electrochemical Technologies for Environmental Applications

Sponsored by ENVR, Cosponsored by ENFL

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

WEDNESDAY AFTERNOON

SECTION A

Renaissance Boston Waterfront
Brewster

Biomass to Energy, Chemicals & Functional Materials

M. A. Carreón, *Organizer*

R. Huang, H. Zhou, *Organizers, Presiding*

1:55 Introductory Remarks.

2:00 ENFL 477. Electrochemical characterization of agricultural feedstocks for renewable biobased products. *S.M. Uchimiya*

2:20 ENFL 478. Impact of TMP on membrane fouling in microalgae harvesting with a uniform shearing vibration membrane system. *S. Jiang, Y. Zhang, F. Zhao, Z. Yu, X. Zhou, H. Chu*

2:40 ENFL 479. Demonstration and evaluation of integrated microalgae systems for biofuel production. *Y. Li, S. Leow, T. Dong, L.M. Laurens, P.T. Pienkos, J. Guest, T.J. Strathmann*

3:00 ENFL 480. CaFe₂O₄ oxygen carrier characterization during the partial oxidation of coal in the chemical looping gasification application. *D.D. Miller, R.V. Siriwardane*

3:20 Intermission.

3:35 ENFL 481. Preparation of biochar with covalent chloride and micro-mesopores structure for elemental mercury removal from simulated flue gas. *X. Zhang, Q. Shi, B. Shen*

3:55 ENFL 482. Investigation on the mechanism of oxygen uncoupling in chemical looping processes by the DFT calculation. *S. Liu, Y. Cao*

4:15 ENFL 483. Emission of aldehydes, ketones, and polyaromatic hydrocarbons pollutants from the combustion of liquid fuels blended with bio and synthetic fuels. *P. Dagaut, R. Shihla*

4:35 ENFL 484. Quantum molecular modeling of autoignition of biofuels. *M.R. Nimlos, L. Bu, S. Kim, T. Foust*

SECTION B

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon A

Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation

Spectroscopy Analysis

Cosponsored by ANYL and COLL
S. Bashir, Organizer

Y. Yu, Organizer, Presiding

1:20 Introductory Remarks.

1:25 ENFL 485. Application of chemical spectrometry in the mechanistic characterization of development nanomaterials on fingerprint detection. *P. Villarreal, J.L. Liu, S. Bashir*

2:00 ENFL 486. Artificial photosynthesis: From nano to microbes. *C. Liu*

2:25 ENFL 487. SrTaO₃N nanowire photoanode modified with a ferrihydrite hole-storage layer. *A. Slabon*

2:50 ENFL 488. Glycomic and proteomic changes in aging brain nigrostriatal pathway. *R. Raghunathan, N. Polinski, J. Klein, J. Hogan, C. Shao, K. Khatri, D. Leon, M.E. McComb, F. Manfredsson, C.E. Sortwell, J. Zia*

3:15 Intermission.

3:25 ENFL 489. Application of mass spectrometry in the mechanistic characterization of key enzymes in ergothioneine and ovoidiol biosynthesis. *P. Liu, L. Chen, N. Naowarajna, H. Song, S. Wang, C. Zhao*

3:50 ENFL 490. Multifaceted mass spectrometric investigation of neuropeptidomic changes in decapod crustaceans after exposure to silver nanoparticles. *L. Li, Z. Li, C. Ouyang*

4:15 ENFL 491. Application of swab touch spray ionization mass spectrometry for the analysis of forensic samples including organic gunshot residue and explosives. *R. Bain, P.W. Fedick*

4:40 ENFL 492. Imaging steroids in tissue by mass spectrometry: Challenges and opportunities. *R. Andrew*

5:05 Concluding Remarks.

SECTION C

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon D

International Symposium on Mesoporous Zeolites

J. Garcia Martinez, K. Li, Organizers
M. Stockenhuber, Presiding

1:25 Introductory Remarks.

1:30 ENFL 493. Designing hierarchical zeolites: Scalable, sustainable, and economical. *M. Ostraat*

2:20 ENFL 494. Crystalline molecular sieve membranes for Kr/Xe separation. *M.A. Carreon, T. Wu, J. Lucero, S.K. Elsaidi, P.K. Thallapally, Z. Zong*

3:00 Intermission.

3:20 ENFL 495. π-π Interaction of aromatic groups in amphiphilic molecules directing for highly ordered mesoporous zeolite. *S. Che, D. Xu, B. Singh, X. Shen, Y. Zhang, L. Han*

4:10 ENFL 496. Wrinkled mesoporous silica coated nanoparticles. *J. Lin, K.J. Balkus*

4:50 Concluding Remarks.

SECTION D

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon E

Sustainable Energy Conversion via Innovative Electrocatalysis & Photocatalysis

F. Jiao, Y. Shao, G. Wu, Organizers, Presiding

1:30 ENFL 497. Biofuel cells based on novel photoelectrochemical catalysis. *Y. Yan*

2:00 ENFL 498. Identifying factors controlling the activity and selectivity of the electrochemical hydrogenation of aldehydes. *M. Nguyen, D.C. Cantu, M. Lee, S. Akhade, V. Glezakou, R. Rousseau*

2:30 ENFL 499. Electrodeposited Co-Mo-P for superior hydrogen evolution reaction in alkaline medium.

A. Thenuwara, L. Dheer, N. Attanayake, Q. Yan, U. Waghmare, D.R. Strangin

2:50 ENFL 500. Organic ligands enhance the recombination lifetime and photoelectrochemical performance of biosynthesized CdS nanoparticle thin films. *Y. Feng, J. Huang, E. Ngaboyamahina, K. Marusak, J.T. Glass, M. Mikkelsen, S. Zauscher*

3:10 Intermission.

3:20 ENFL 501. Reaction networks and mechanisms in electrocatalytic hydrogenation of oxygenated compounds. *O.Y. Gutierrez Tinoco, U. Sanyal, L. Meyer, J. Holladay, J. Lercher*

3:50 ENFL 502. Dynamics of charge transfer in fuel forming reactions. *X. Chen*

4:10 ENFL 503. Active sites on both basal planes and edges of NiFe layered double hydroxide oxygen evolution electrocatalysts. *H. Sheng, L. Dang, S. Jin*

4:30 ENFL 504. Selective CO₂ electroreduction to ethylene at an abrupt interface. *C. Dinh, E. Sargent*

4:50 ENFL 505. Electrocatalytic reduction of gaseous CO₂ with a bipolar membrane-based electrolyzer and combinatorial screening of ternary and quaternary alloy catalysts. *Z. Yan, Y. Li, L. Zhu, M.A. Hickner, R.J. Wycisk, P.N. Pinturo, T.E. Mallouk*

SECTION E

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon B

Perovskite Solar Cell & Water Splitting for Efficient Hydrogen Generation

J. L. Liu, Organizer

Q. Zhen, Organizer, Presiding
J. Kang, Presiding

1:55 Introductory Remarks.

2:00 ENFL 506. From thermopower waves to asymmetric chemical doping – New concepts in energy storage and generation using molecular interactions with single-walled carbon nanotubes. *A.T. Liu, Y. Kunai, A. Cottrill, M. Strano*

2:30 ENFL 507. Operation, electrical polarization, and optical response of perovskite solar cells. *J. Bisquert*

3:00 ENFL 508. Enhancing performance and stability of Pb-Sn alloyed perovskite solar cells via triple-cation and double-halide. *G. Tosado, Y. Lin, E. Zheng, Q. Yu*

3:30 Intermission.

3:45 ENFL 509. Earth-abundant tungsten-nickel alloy electrocatalyst for superior hydrogen evolution. *J. Nsanzimana, W. Xin, V. Reddu*

4:15 ENFL 510. Earth-abundant metal nitrides as hole transport materials for perovskites solar cells. *J. Kang, Y. Son, J. Kang, J. Jeong, Y. Sung*

4:45 ENFL 511. Room-temperature synthesis of nitride nanocatalysts for electrochemical oxygen evolution reaction. *J. Kang, H. Shin, S. Park, M. Lee, Y. Sung*

SECTION F

Renaissance Boston Waterfront
Spectacle

Novel Catalytic Materials

M. C. Beard, A. B. Bocarssy, F. Lin, Organizers

J. Gu, Y. Yan, Organizers, Presiding

1:25 Introductory Remarks.

1:30 ENFL 512. Enhanced stability of black-Si photoelectrode for hydrogen evolution via dual oxide layer protection. *F. Yang, J. Gu*

1:50 ENFL 513. Design and optimization of high-performing hydrogen evolution electrocatalysts using the M13 bacteriophage. *W. Records, Y. Yoon, J. Ohmura, A.M. Belcher*

2:10 ENFL 514. (LiNa)₂CO₃-GDC nanocomposite electroceramic membranes for hybrid solid oxide fuel cells. *I. Khan, S. Basu*

2:30 ENFL 515. General and efficient photocatalytic coupling of aryl/alkyl halides with carboxylic acids through the merger of perovskite and nickel(II) complex. *X. Zhu, Y. Yan*

2:50 ENFL 516. Overcoming site heterogeneity in search of metal nanocatalysts for oxygen reduction. *S. Wang, H. Xin*

SECTION G

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon C

Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage

Electrode Materials & Architectures

X. Ji, J. Liu, X. Yu, Organizers

H. Pan, Organizer, Presiding
S. G. Greenbaum, X. Yang, Presiding

1:55 ENFL 517. Solid state NMR investigation of non-polyether polymer electrolyte for Li metal battery.

S.G. Greenbaum, S. Munoz, M. Gobet, S. Lai, C. Mallia, M. Zimmerman, R. Leising

2:25 ENFL 518. Single crystal NMR study of LiFe_{0.9}Mn_{0.1}PO₄. *D. Morales, P. Stallworth, L. Cirrincione, S.G. Greenbaum, Y. Janssen, P. Khalifah*

2:45 ENFL 519. Solid-state NMR studies on high-performance Li/Na cathode materials. *X. Li, Y. Hu*

3:05 ENFL 520. Operando AFM reveals mechanics of pseudocapacitive energy storage in tungsten oxides. *V. Augustyn*

3:25 Intermission.

3:45 ENFL 521. Using synchrotron X-ray and neutron based scattering and TXM imaging techniques to study the new cathode materials for batteries. *X. Yang, E. Hu, S. Bak, X. Yu, X. Huang, M. Ge, Y. Chu, Z. Shadik, R. Lin, H. Lee, Y. Guo, Y. Liu*

4:15 ENFL 522. Operando XRF mapping and μ-XANES of a Cu-containing Bi-birnessite cathode for high density, low-cost aqueous batteries. *J. Gallaway, G. Yadav, D. Turney, S. Banerjee, Y. Chen-Wiegart, G. Williams, J. Thieme*

4:35 ENFL 523. Developing plasmonic imaging technique to understand battery solid electrolyte interface formation *in-situ*. *X. Shan, C. Yang*

4:55 ENFL 524. Effects of salt concentration on microstructure and SEI formation in hard carbons: An operando SANS and XPS study. *C.J. Jafta, C.A. Bridges, X. Sun, G. Veith, P.P. Paranthaman, S. Dai*

SECTION H

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon F

Nanoscience of Energy Storage

Electrolytes: Structure, Dynamics & Performance

B. Gurkan, J. L. Schaefer, Organizers, Presiding

1:55 Introductory Remarks.

2:00 ENFL 525. Bulk and double layer properties of solvent-in-salt electrolytes and ionic liquids from molecular dynamics simulations. *O. Borodin, J. Vatamanu, X. Ren*

2:30 ENFL 526. Modeling the effects of ionic liquid mixtures on electrochemical capacitor performance. *A. Fang, A. Smolyanitsky*

2:50 ENFL 527. *In-operando* mesoscale 3D visualization of ion transport in battery electrolyte. *Y. Yang*

Electrical/Electrochemical Technologies for Environmental Applications

Sponsored by ENVR, Cosponsored by ENFL

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

THURSDAY MORNING

SECTION A

Renaissance Boston Waterfront
Mediterranean

Nanoscaled Electrocatalysts used in Fuel Cells & Hybrid Vehicles

V. I. Birss, Organizer

V. Li, Organizer, Presiding
L. Tamasauskaite-Tamasuniute, Presiding

8:25 Introductory Remarks.

8:30 ENFL 528. Microwave-assisted synthesis of graphene supported PtCoM (M = Mn, Ru, Mo) catalysts for low temperature fuel cells. *L. Tamasauskaite-Tamasuniute, T. Kilmonis, A. Balcianaitė, J. Jablonskiene, J. Vaiciuniene, E. Norkus*

9:00 ENFL 529. Molybdenum and Cobalt doped SrFe_{1-x}M_xO₃ and Ca₂Fe_{2-x}M_xO₆ cathode for low and intermediate temperature solid oxide fuel cell. *B. Bajnath, P.K. Tiwari, S. Basu*

9:30 ENFL 530. Gram-scale production of active and stable octahedral PtNi@Pt nanoparticles for proton exchange membrane fuel cell. *J. Choi, H. Lee*

10:00 Intermission.

10:10 ENFL 531. Carbon nano-ions synthesized by laser pyrolysis as catalyst support in proton exchange membrane fuel cells. *J. Yeon, I. Choi, M. Choi*

10:40 ENFL 532. Bulk preparation of layered MoS₂-N-doped carbon nanosheet composite by salt-assisted method for a stable and fast sodium-ion battery anode. *J. Zhang, Y. Zhang*

11:10 ENFL 533. Graphene quantum dots decorated iron oxide and halloysite nanotubes for high performance supercapacitor. *A.B. Ganganboina, R. Doong*

11:40 Concluding Remarks.

SECTION B

Renaissance Boston Waterfront
Pacific Grand Ballroom Salon A

Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation

Nanomaterials & Safe Evaluation

Cosponsored by ANYL and COLL

S. Bashir, Organizer

Y. Yu, Organizer, Presiding

8:25 Introductory Remarks.

ENFL/ENVR

8:30 ENFL 534. Optimized surface acoustic wave nebulization facilitates bacterial phenotyping. *L. Tao, T. Schneider, S.H. Yoon, B.L. Oyer, L.M. M. Leung, W.E. Fondried, G. Yen, Y. Huang, R.K. Ernst, E. Nilsson, D.R. Goodlett*

9:05 ENFL 535. DNA quadruplexes studied by label free surface-enhanced Raman spectroscopy and electrospray ionization mass spectrometry. *X. Guo, Y. Li, X. Xiang, Y. Cao*

9:35 ENFL 536. Two-dimensional separation using high-pH and low-pH reversed phase liquid chromatography for top-down proteomics. *Is. Z. Wang, H. Ma, K. Smith, S. Wu*

10:05 ENFL 537. Use of a single quadrupole mass spectrometer in radiochemistry. *T.L. Collier, S.H. Liang, N. Vasdev*

10:35 Intermission.

10:50 ENFL 538. Quantitative correlations between collision induced dissociation mass spectrometry coupled with electrospray ionization or atmospheric pressure chemical ionization mass spectrometry: Experiment and theory. *B.I. Ivanova, M. Spiteller*

11:20 ENFL 539. Mass spectrometry imaging of N-glycans in cancer tissues. *R.R. Drake, P.M. Angel, A.S. Mehta*

11:50 ENFL 540. Investigating structural transitions of amyloid proteins in the early stage of aggregations using ion mobility mass spectrometry (IM-MS) and small-angle X-ray scattering (SAXS). *T.S. Choi, H.I. Kim, J. Han, C.E. Heo*

SECTION C

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon D*

Peter Derrick Memorial Symposium: Nanomaterials & Safe Evaluation

Panel Discussion

*Y. Yu, Organizer
S. Bashir, Organizer, Presiding*

9:00 ENFL 541. Application of chemical spectrometry in the mechanistic characterization of nanomaterials. *J.L. Liu*

SECTION D

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon E*

Perovskite Solar Cell & Water Splitting for Efficient Hydrogen Generation

*Q. Zhen, Organizer
J. L. Liu, Organizer, Presiding*

8:25 ENFL 542. Guanidinium cations roles in perovskites solar cells. *M.H. Alotaibi, I.M. Dar, N. Arora, Y.A. Alzahrani, A. Alyamani, A. Albadri, H. Albrithen, A.Z. Alanzi, F.S. Alghamdi, I.H. Allehyani, S. Zakeeruddin, M. Graetzel*

8:55 ENFL 543. Hydrogen generation from formic acid decomposition using a Ir-Pd nanoparticles supported on different supports. *M.H. Alotaibi, O.F. Aldosari, R.L. Al-Otaibi*

9:25 ENFL 544. NHC-ligands in novel photochemical molecular devices. *L. Petermann, S. Kaufhold, S. Rau*

9:55 ENFL 545. Nanocatalysis to enhance water splitting. *Q. Zhen, R. Li, J.L. Liu*

SECTION E

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon B*

Nanoscaled Electrocatalysts used in Fuel Cells & Hybrid Vehicles

Panel Discussion

*V. I. Birss, V. Li, Organizers
Q. Zhen, Presiding*

9:00 ENFL 546. Nanostructured materials used to improve hydrogen production and storage. *Q. Zhen, R. Li, J.L. Liu*

SECTION F

*Renaissance Boston Waterfront
Spectacle*

Nanoscaled Electrocatalysts used in Fuel Cells & Hybrid Vehicles

Advanced Energy

*V. I. Birss, V. Li, Organizers
G. Kumari, Presiding*

8:55 Introductory Remarks.

8:55 ENFL 547. Nanodolloy catalysts in fuel cell reactions: An *in-situ* structural characterization. *S. Shan, J. Li, Z. Wu, A. Lu, Y. Maswadeh, J. Luo, V. Petkov, C. Zhong*

9:25 ENFL 548. Synergy effect of mixed precursor infiltrated cathode on solid oxide fuel cell performance. *J. Kil, S. Shin, J. Choi, C. Lee, H. Shin, M. Choi*

9:55 ENFL 549. Carbon dioxide gasification of low and high ash Indian coals in context of underground coal gasification.

G. Kumari, P. Vairakannu

10:25 ENFL 550. Exergy analysis of hydro-desulfurization unit (HDU) of linear alkyl benzene plant using ASPEN HYSYS as a simulating tool: A case study of Kaduna Refining and Petrochemical Company. *O.S. Isaac, A. Mukhtar*

10:55 ENFL 551. Fabrication of metal oxide/reduced graphene oxide nanocomposites as anode for lithium-ion batteries. *Y. Mussa, F. Ahmed, M. Alshahrani, H. Abuhimid, M. Arsalan, E.H. Alsharrah*

11:25 ENFL 552. Selective cathode and anode electrocatalysis for membrane-free fuel cells. *B. Yan, N. Concannon, A. Alabugin, Y. Surendranath*

SECTION G

*Renaissance Boston Waterfront
Pacific Grand Ballroom Salon C*

Innovative Chemistry, Materials & Characterizations for Electrochemical Energy Storage

Energy Storage Technologies

*X. Ji, J. Liu, X. Yu, Organizers
H. Pan, Organizer, Presiding
X. Yang, Presiding*

7:55 ENFL 553. Improved high-rate performance of vertically-aligned carbon nanotubes/manganese oxide supercapacitor electrode by pulsed current electrodeposition method. *M. Li, H. Park*

8:15 ENFL 554. Supermolecule polymerization derived porous nitrogen-doped reduced graphene oxide as a high-performance electrode material for supercapacitors. *D. Shu, H. Cheng, X. Zhou, C. He*

8:35 ENFL 555. Carbon hybrid and its derived materials for electrochemical capacitors. *Q. Li, A. Smith, M. Haque, V. Kuzmenko, P. Enoksson*

8:55 ENFL 556. Piperidinium ionic liquids as electrolytes in supercapacitors and lithium ion batteries at elevated temperatures. *K. Sankar, J. Chapman Varela, M.W. Grinstaff*

9:15 Intermission.

9:35 ENFL 557. Interaction of CO₂ and NO_x gas on transition metal perovskites. *J. Hwang, Y. Shao-Horn*

10:05 ENFL 558. Ligand effects on the multi-electron redox properties of Fe complexes. *I.A. Popov, N. Mehio, N.C. Smythe, T. Chu, B.L. Davis, J.C. Gordon, R. Mukundan, P. Yang, E.R. Batista*

10:25 ENFL 559. Symmetric redox flow battery containing quinones in aqueous solution. *M.P. Marshak, A.S. Crossman, J. Koka, B.H. Robb*

10:45 ENFL 560. Discovery of organic flow battery electrolytes via a machine learning driven approach. *D.P. Tabor, F. Häse, L. Roch, A. Aspuru-Guzik*

Electrical/Electrochemical Technologies for Environmental Applications

Sponsored by ENVR, Cosponsored by ENFL

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

THURSDAY AFTERNOON

Electrical/Electrochemical Technologies for Environmental Applications

Sponsored by ENVR, Cosponsored by ENFL

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

ENVR

Division of Environmental Chemistry

J. Goldfarb, Program Chair

SUNDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 160C*

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Cosponsored by ANYL and GEOC
W. Chen, D. D. Dionysiou, J. Liu, V. K. Sharma, B. Yan, Organizers

L. Guo, C. Jing, Presiding

8:00 Introductory Remarks.

8:15 ENVR 1. Activation of ferrate(VI) in treatment of organic contaminants in water: Current status. *V.K. Sharma*

8:40 ENVR 2. Unexpected hydroxyl radical production and DNA damage via UV and sunlight irradiation of the genotoxic hydroxamic acid intermediate of polyaromatic amine carcinogen. *B. Zhu*

9:05 ENVR 3. *Escherichia coli* reduced graphene oxide aerobically in a suicidal manner: Mechanism and implication. *C. Zhang, H. Zhao*

9:30 ENVR 4. Temporal variation of the hygroscopicity of black carbon aerosols during a summer episode in Shanghai. *X. Yang*

9:55 Intermission.

10:15 ENVR 5. Crystallinity and exposed facets significantly affect affinity and reactivity of nanocrystals towards organic contaminants and biomolecules. *T. Zhang, P.J. Alvarez, W. Chen*

10:40 ENVR 6. Sources apportionment for perfluoroalkyl acids in the environment based on isomeric analysis. *L. Zhu, G. Shan*

11:05 ENVR 7. Stable isotopic evidence for mercury accumulation in the montane forests in Southwest China. *X. Feng*

11:30 ENVR 8. New insights into black carbon-mediated reduction of nitroaromatic compounds by sulfide in aqueous solution. *C. Wei, S. Yin, D. Zhu*

SECTION B

*Boston Convention & Exhibition Center
Room 161*

Environmental Nanometrology

Cosponsored by ANYL and GEOC

A. S. Adeleye, Organizer

*A. R. Badireddy, P. Larese-Casanova, B. Lau, Organizers,
Presiding*

D. G. Goodwin, Presiding

8:30 Introductory Remarks.

8:35 ENVR 9. Nanoscale spectroscopic and mechanical characterization of individual aerosol particles with peak force infrared microscopy. *L. Wang, X. Xu*

8:55 ENVR 10. Optical imaging of environmental nanoparticle dynamics at the liquid-solid interface. *X. Liu*

9:15 ENVR 11. Relative contribution of surface charge and hydrophobicity of nanoparticles on membrane disruption: A study by surface-enhanced infrared absorption spectroscopy and quartz crystal microgravimetry. *Z. Xia, A. Woods, A. Quirk, I. Burgess, B. Lau*

9:35 ENVR 12. Chemical assays for assessing surface reactivity of nanoparticles in water: Much more than reading a number. *X. Bi, P.K. Westerhoff*

9:55 Intermission.

10:15 ENVR 13. Photochlorination-induced transformation of graphene oxide: Mechanism and environmental fate. *Y. Li*

10:45 ENVR 14. Graphene and graphene oxide/polymer nanocomposite transformations during accelerated outdoor weathering. *D.G. Goodwin, T. Lai, C. Lu, S. Kabir, J.M. Gorham, T. Nguyen, L. Sung*

11:05 ENVR 15. Unraveling microbial adhesion to aqueous interfaces using single-cell force spectroscopy. *S. Romero-Vargas Castrillon*

11:25 ENVR 16. *In situ* detection of heterogeneous nucleation of CaCO₃ nanoparticles at environmental interfaces. *Y. Jun, Q. Li*

11:55 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Room 162A*

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Cosponsored by AGRO and I&EC
Y. Deng, D. Kriner, T. Wu, Organizers

T. Wu, Presiding

8:15 Introductory Remarks.

8:20 ENVR 17. Advanced oxidation-based net-zero water technology: Opportunities for percent-level national energy demand reductions. *J. Englehardt, T. Wu, L. Gassie, T. Guo, K. Perera, J. Wang, P. Gardinali*

9:05 ENVR 18. Reactive and fouling-resistant photo-Fenton membranes for sustainable water filtration. *S. Sun, W. Fu, L. Hua, H. Yao, W. Zhang*

9:30 ENVR 19. Advances in ferrate(VI) chemistry: Environmental implications for water reuse. *Y. Deng, J. Cui, L. Zheng*

9:55 ENVR 20. Assessment of ferrate for 1,4 dioxane oxidation and pathogen inactivation towards water reuse applications. *C.D. Spellman, S. Da'ar, E. Addison, E. Wezenkski, K. Ikuma, J.E. Goodwill*

10:20 Intermission.

10:35 ENVR 21. Nitrosamine formation pathway revisited: Importance of dichloramine and relevance to water reuse. *D. McCurry, M. Huang, S. Huang*

11:00 ENVR 22. A novel solar thermal membrane distillation system for drinking water production in underdeveloped areas. *R. Tanvir, P. Yi*

11:25 ENVR 23. Water recovery from high strength brewery wastewater via a membrane distillation process. *N. Anwar, M.R. Choudhury, T. Chen, S. Rahaman*

SECTION D

*Boston Convention & Exhibition Center
Room 162B*

Catalysis for Environmental & Energy Applications

Cosponsored by CATL, CELL, ENFL and I&EC
A. Orlov, A. Savara, Organizers, Presiding

8:30 Introductory Remarks.

8:35 ENVR 24. 3D porous Bi₂MoO₆/reduced graphene oxide aerogel composite with excellent adsorption and photocatalytic degradation performance for methylene blue. *W. Jue, X. Liu*

8:55 ENVR 25. Implications of homogeneous acids on interpretation of solid acid activity for cellulose hydrolysis. *M. Tyufekchiev, J. Finzel, P. Duan, K. Schmidt-Rohr, S. Granados Facil, M. Emmert, M.T. Timko*

9:15 ENVR 26. Heterogeneous reaction mechanism and kinetics of elemental mercury oxidation over RuO₂/TiO₂ catalyst. *J. Lee, Z. Liu, V. Sriram, C. Li*

9:35 ENVR 27. Understanding selectivity in ammonia oxidation: DFT and microkinetic modeling over Pt, Pd and Rh (111). *H. Ma, W.F. Schneider*

9:55 Intermission.

10:15 ENVR 28. Exploring the interaction between metals and nano-crystalline beta zeolite for enhanced nitrate reduction. *S. Hamid, A. Nasir, Z. Bakenov, J. Kim, W. Lee*

10:35 ENVR 29. Experimental data based computational kinetic simulations for predictions of enhanced exhaust emission catalysis with bifunctional mixed-bed systems. *H. Vuong, A.J. Binder, J.E. Sutton, A. Savara*

10:55 ENVR 30. Structural evolution of copper-based nanoalloy catalysts for carbon monoxide oxidation. *J. Li, S. Shan, J. Hou, J. Luo, D. Truong, M. Kozma, S. Yan, C. Zhong*

11:15 ENVR 31. MnO₂ treated by NH₄Cl with enhanced surface acidity and oxygen vacancy for promoting ozone decomposition. *R. Cao, P. Zhang*

11:35 ENVR 32. Low-temperature selective catalytic reduction of NO with NH₃ over Mn-Ni oxides supported on m-Al₂O₃ and γ-Al₂O₃: A comparative study. *X. Han, Z. Huang, Y. Liu*

11:55 Concluding Remarks.

SECTION F

*Boston Convention & Exhibition Center
Room 259B*

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Cosponsored by AGRO, ENFL and I&EC
*K. Chandran, K. Nelson, K. Wigginton, Organizers
N. Love, W. Tarpeh, Organizers, Presiding*

8:15 Introductory Remarks.

8:20 ENVR 33. Advancing technologies and improving communication of urine-derived fertilizers within a risk-based framework. *N. Love*

8:40 ENVR 34. Urea recovery from fresh urine by forward osmosis and membrane distillation. *H. Ray, T.H. Boyer, F. Perreault*

9:00 ENVR 35. "Smart" nonwater urinals for urea stabilization, phosphorus recovery, and water conservation. *D. Saetta, A. Padda, C. Leyva, D. Boscovic, T.H. Boyer*

9:20 ENVR 36. Integrated, multi-process approach to total and customizable nutrient recovery from hydrolyzed urine. *N. Jagtap, T.H. Boyer*

9:40 ENVR 37. Pharmaceutical transformation during production of urine-derived fertilizers. *W. Tarpeh*

10:00 Intermission.

10:15 ENVR 38. Redox-based electrochemical technologies for product purification, wastewater treatment and resource recovery. *T. Hatton*

10:50 ENVR 39. Faradaic and non-Faradaic electrode designs for robust electrochemical lithium recovery from brine and wastewater. *S. Kim, J. Yoon*

11:10 ENVR 40. Layer-stacked hierarchical porous carbon from PE by pyrolysis under autogenic pressure and KOH activation. *H. Zhang, X. Zhou, L. Shao, P. He*

11:30 ENVR 41. Selective removal of phosphate by electrochemical process with layered double hydroxide/reduced graphene oxide composite electrode. *S. Hong, H. Yoon, J. Lee, S. Kim, J. Yoon*

11:50 Discussion.

SECTION G

*Boston Convention & Exhibition Center
Room 259A*

SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal

Cosponsored by CEI

Financially supported by SETAC North America

*J. Liu, M. F. Simcik, Organizers
K. Chu, F. Xiao, Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 42. Impacts of air emissions and wastewater discharges from a fluorochemical manufacturing plant on nearby and distant communities. *D. Knappe, Z. Hopkins, C. Zhang, N. Kotlarz, M. Sun, M. Strynar, A. Lindstrom, J. McCord*

8:40 ENVR 43. Investigations of per- and polyfluorinated compounds in environmental samples and contemporary products. *M. Strynar, J. McCord, J. Lang, S. Newton, D. Knappe, Z. Hopkins, M. Sun, A. Lindstrom*

9:15 ENVR 44. Sorption of novel cationic and zwitterionic polyfluoroalkyl surfactants to soil. *S. Mejia-Avenida, Y. Zhi, J. Liu*

9:40 ENVR 45. Biotransformation of 6:2 fluorotelomer sulfonate (6:2 FtS) under sulfur-limiting condition. *Y. Shi, K. Chu*

10:05 Intermission.

10:20 ENVR 46. Efficient removal of per- and polyfluoroalkyl substances from aqueous film-forming foam solution by aeration-foam collection. *S. Deng, P. Meng, W. Wang, G. Yu*

10:45 ENVR 47. Degradation of perfluorooctanesulfonate in a laccase-mediator system. *Q. Huang*

11:10 ENVR 48. Occurrence and distribution of hydrogen-substituted F-53B and other emerging PFASs in surface waters from China. *J. Dai, Y. Pan, H. Zhang, Q. Cui*

11:35 ENVR 49. Fate and transport of poly- and perfluoroalkyl substances across groundwater/surface-water boundaries. *A.K. Tokranov, H.M. Pickard, B. Ruyle, D.R. LeBlanc, L.B. Barber, R.B. Hull, T.D. McCobb, E. Sunderland, C.D. Vecitis*

SECTION H

*Boston Convention & Exhibition Center
Room 258B*

Advances in Sensors & Biosensors for Environmental Monitoring

Cosponsored by ANYL and BIOL

J. Berberich, T. Li, E. Sahle-Demessie, Organizers, Presiding

8:00 Introductory Remarks.

8:05 ENVR 50. Novel biosensor for organoarsenic herbicides and antimicrobial growth promoters. *J. Chen, B.P. Rosen*

8:30 ENVR 51. Visualization of adsorption: Luminescence mesoporous silica-carbon dots composite for rapid and selective removal of U(VI) and monitoring the adsorption behavior. *Y. Lu, Z. Wang, J. Chen*

8:55 ENVR 52. Dry preservation of heavy metal contaminants in water samples using cation exchange resins for improved water quality monitoring. *E. Hanhauser, M.S. Bono, C. Vaishnav, A. Hart, R. Karnik*

9:20 ENVR 53. Using an array of conjugated polymers for the detection of metal cations through pattern recognition. *M. Ihde, M. Bonizzoni*

9:45 ENVR 54. Mercury trace analysis using automatically temperature-calibrated heated screen-printed gold electrodes. *S. Colon-Rodriguez, J. Abdulkhalek, T. Quiñones-Ruiz, I.K. Lednev, S. Bentham, M. Schönhoff, G. Flechsig*

10:10 Intermission.

10:20 ENVR 55. Hydrogel interferometer naked-eye sensor for Cu²⁺ detection. *M. Sun, R. Bai, X. Yang, J. Song, Z. Suo, X. He*

10:45 ENVR 56. Improved anion sensing property using single-walled carbon nanotubes functionalized by neutral receptors. *S. Choi, B. Yoon, S. Lin, M. He, T.M. Swager*

11:10 ENVR 57. Effects of analogue interferences on sensing performance of imprinted photonic crystal sensors. *S. Chang, W. Chung*

11:35 ENVR 58. 4-Acetoxyphenol as a substrate for acetylcholinesterase-based sensor and its application for As(III) determination. *T. Li, J. Berberich, E. Sahle-Demessie*

11:55 Concluding Remarks.

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Synergistic Approaches to Lignocellulosic Biomass Research

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

How Can Advances in Chemistry Improve Human Health Exposure Assessment?

Sponsored by AGRO, Cosponsored by ENVR

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 160C*

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Cosponsored by ANYL and GEOC

W. Chen, D. D. Dionysiou, J. Liu, V. K. Sharma, B. Yan, Organizers

Z. Lin, B. Zhu, Presiding

1:30 ENVR 59. Nano-bio interactions in the context of environmental safety. *B. Yan*

1:55 ENVR 60. Searching for the adverse outcome pathways of polybrominated diphenyl ethers. *L. Cao, L. Guo*

2:20 ENVR 61. Modeling photodegradation kinetics of organic micropollutants in field water bodies. *J. Chen, C. Zhou*

2:45 ENVR 62. Understanding the halogenation of dissolved organic matter by using Fourier transform ion cyclotron resonance mass spectrometry. *J. Liu, Z. Hao*

3:10 Intermission.

3:25 ENVR 63. Visible-light-driven conversion of nitrogen oxides at Ti-based photocatalysts: Selectivity and mechanistic insights. *C. Wang, R. Hailili*

3:50 ENVR 64. Metabolic assembly of alkynyl D-alanine into bacterial cell wall and tandem click labeling strategy: Counting pathogenic bacteria using mass spectrometry. *Y. Liang, L. Yang, Q. Wang*

4:15 ENVR 65. Efficient removal of radionuclides from aqueous solutions using carbon nanomaterials. *X. Wang*

4:40 ENVR 66. Biogenic Au@biolayer nanoparticles in *Pantoea* sp. IMH: Characterization, process, and application. *C. Jing, W. Liu, L. Wang*

5:05 ENVR 67. Effects of copper oxide nanoparticles and arsenic on the whole-life growth of rice (*Oryza sativa japonica*). *J. Liu, M. Simms, G.P. Cobb*

SECTION B

*Boston Convention & Exhibition Center
Room 161*

Environmental Nanometrology

Cosponsored by ANYL and GEOC

A. S. Adeleye, A. R. Badireddy, D. G. Goodwin, P. Larese-Casanova, B. Lau, Organizers, Presiding

1:30 Introductory Remarks.

1:35 ENVR 68. Widespread occurrence of titanium dioxide engineered nanoparticles in the environment. *M. Baaloussa*

2:05 ENVR 69. Analysis of the transformation of Cu₂O nanoparticles in natural seawater. *A.S. Adeleye, A. Minakova, A.A. Keller*

2:25 ENVR 70. Quantification of dissolved and nanoparticulate metals with SEC-ICP-MS. *P. Paydary, P. Larese-Casanova*

2:45 ENVR 71. Characterization of silver and titanium dioxide nanoparticles using asymmetric flow FFF hyphenated with multi-angle light scattering (AF4-MALS) and single particle ICPMS. *S. Rao, S. Ghoshal*

3:05 Intermission.

3:20 ENVR 72. Sequestering heavy metal ions from drinking water using functionalized aluminum oxide hydroxide. *J. Johnson, L.M. Baird, D. Smith, Z. Xia*

3:40 ENVR 73. Characterization and quantification of nanomaterials in polymer fragments released from nanoenabled products using single particle icpms and hyperspectral imaging. *H. Fairbrother, R. Lankone, M.J. Gallagher, J. Wang, J.F. Ranville, J.T. Buchman, T.A. Qiu, B. Zhi, K.M. Landy, C.L. Haynes, T. Lyons, Z. Rosenzweig*

4:10 ENVR 74. Detection and characterization of aqueous nanoparticles by hyperspectral imaging with darkfield microscopy. *Y. Shen, R. Badiredy*

4:30 ENVR 75. Detection and quantitation of engineered nanomaterials in environmental samples via single particle ICP-MS. *Y. Huang, A.A. Keller, P. Cervantes-Avilés*

4:50 Concluding Remarks.

SECTION C

Boston Convention & Exhibition Center
Room 162A

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Cosponsored by AGRO and I&EC

D. Kriner, T. Wu, *Organizers*

Y. Deng, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 ENVR 76. Enhanced nutrient removal from wastewater through an intermittent aeration strategy. *J. Wang*

2:20 ENVR 77. Cultivating diverse granular sludge in an enhanced membrane bioreactor: A potential approach to promote wastewater recycling. *B. Tang, L. Bin, C. Chen, L. Wu, S. Huang, P. Li, F. Fu*

2:45 ENVR 78. Investigation of anaerobic membrane bioreactor (AnMBR) potential to reduce antibiotic resistance proliferation and promote wastewater reuse. *A. Zarei Baygi, M. Harb, P. Wang, A. Smith*

3:10 Intermission.

3:30 ENVR 79. Physical interactions of antibiotics and metabolites with solids: Elucidating fate, transportation and mitigation methods. *B. Stromer, B. Woodbury, C. Williams*

3:55 ENVR 80. Removal of bacteriophage f2 in water by Fe-Ni nanoparticles: optimization of Fe/Ni ratio and influencing factors. *R. Cheng, M. Kang, L. Shi, X. Zheng*

4:20 ENVR 81. Novel bifunctional cyclodextrin-based adsorbents for removal of dyes and endocrine-disrupting chemicals. *Y. Zhou, Y. Hu, J. Lu*

4:45 Concluding Remarks.

SECTION D

Boston Convention & Exhibition Center
Room 162B

SETAC-ENVR Joint Symposium: Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans

Cosponsored by ANYL and GEOC

Financially supported by SETAC North America

R. Lohmann, *Organizer*

Y. Ma, *Organizer, Presiding*

J. J. Pagano, *Presiding*

1:30 Introductory Remarks.

1:35 ENVR 82. Ocean biogeochemistry drives sustained seawater concentrations of polychlorinated biphenyls (PCBs) in remote locations. *C. Wagner, H. Amos, C. Thackray, Y. Zhang, E. Lundgren, G. Forget, C. Friedman, N. Selin, R. Lohmann, E. Sunderland*

1:55 ENVR 83. Using passive samplers to determine concentrations and water mass transport of legacy POPs in the Arctic Ocean. *Y. Ma, D.A. Adelman, E. Bauerfeind, A. Cabrerizo, C.A. McDonough, D. Muir, T. Soltwedel, C. Sun, E. Sunderland, C. Wagner, R. Lohmann*

2:15 ENVR 84. From headwater to estuary: Distribution and fate of halogenated flame retardants (HFRs) and current-use pesticides (CUPs) in Xiaqing River Basin, China. *X. Zhen*

2:35 ENVR 85. Four current-use pesticides (CUPs) and halogenated flame retardants (HFRs) in air and surface water of the Bohai Sea, China. *L. Liu, J. Tang*

2:55 ENVR 86. Occurrence and spatial distribution of organophosphorus flame retardants and plasticizers in the Chinese Bohai and Yellow Seas. *M. Zhong, J. Tang, H. Wu*

3:15 Intermission.

3:30 ENVR 87. Evaluation of 2010 and 2015 nearshore Lake Ontario fillet samples: PCDD/F and coplanar PCB concentrations and toxic equivalence (TEQ). *J.J. Pagano, A.J. Garner, E. Murphy, H.B. McCarty, T.M. Holsen*

3:50 ENVR 88. Disentangle biotic and abiotic modification of Mancado Crude oil at the molecular level. *H. Chen, S.F. Niles, A.M. McKenna, R.P. Rodgers*

4:10 ENVR 89. Comparison of organic contaminants in coastal and inland condors using complementary ionization methods, comprehensive two-dimensional gas chromatography-high resolution mass spectrometry (GCxGC-HRMS) and novel spectral analysis tools. *D. Alonso, E. Hoh, J. Cossaboon, C. Tubbs, J. Binkley*

4:30 ENVR 90. Photofate of Tetrabromobisphenol A in waters under natural and simulated sunlight. *J.F. Kerrigan, Y. Chin*

4:50 ENVR 91. Simulating the fate and transport of graphene oxide nanoparticles and their reaction products in surface waters using the water quality analysis simulation program 8 (WASP8). *Y. Han, C. Knights, R.G. Zepp, D.C. Bouchard, X. Chang, H. Hsieh, B. Avant, M. Henderson, J. Spear, B. Acrey*

5:10 Concluding Remarks.

SECTION E

Boston Convention & Exhibition Center
Room 260

Chemistry of Struvite & Slow Release Fertilizers: From Fundamentals of Crystal Growth to Engineered Nutrient Recovery & Their Release

Cosponsored by AGRO

J. Baltrusaitis, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 ENVR 92. Mechanisms of zinc association with struvite in model, wastewater and biological systems.

A. Rouff, M. Ramlogan, A. Rabinovich, G. Lager

2:15 ENVR 93. Effects of biochars on soil silicon cycle in a soil-rice ecosystem. *Y. Wang, K. Zhang, B. Chen*

2:40 ENVR 94. Simultaneous recovery of struvite and K-struvite from a synthetic wastewater stream as a pelletized slow release fertilizer. *S. Lobanov, K.V. Lo*

3:05 ENVR 95. Influence of dissolved organics on metal sorption at the struvite-water interface. *O. Goswami, A. Rouff*

3:30 Intermission.

3:50 ENVR 96. *In situ* measurements of struvite crystal growth and their surface chemistry on insoluble magnesium minerals. *W. Taifan, B. Lu, D. Kiani, J. Baltrusaitis*

4:15 ENVR 97. Reclamation of nutrients and irrigation waters from livestock wastewater. *A. Rabinovich, A. Rouff*

4:40 ENVR 98. Application of struvite supported polygorskite derived by nutrient recovery from wastewater for *in-situ* immobilization of heavy metals in contaminated soil. *X. Wang, J. Niugush, H. Jing, Y. Li*

5:05 Discussion.

5:25 Concluding Remarks.

SECTION F

Boston Convention & Exhibition Center
Room 259B

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Cosponsored by AGRO, ENFL and I&EC

K. Chandran, K. Nelson, K. Wigginton, *Organizers*

N. Love, W. Tarpeh, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 ENVR 99. Mining valuable metals and elements from seawater: Overview of recent advances. *M.S. Diallo*

2:10 ENVR 100. Resource recovery from desalination brine: Energy efficiency and sodium hydroxide production. *A. Kumar, J.H. Lienhard V*

2:30 ENVR 101. Lithium recovery from shale gas produced water including organic compounds by solvent extraction methods. *J. Lee, E. Chung*

2:50 ENVR 102. Influence of organic compounds on lithium adsorption in shale gas produced water. *Y. Jang, E. Chung*

3:10 ENVR 103. Demetalization of sewage sludge using low-cost ionic liquids to produce low-carbon fuels. *J. Yao*

3:30 Intermission.

3:45 ENVR 104. Recovery of rare earth elements from coal combustion residuals. *H. Hsu-Kim, R.C. Smith, R. Taggart, M. Wiesner, J.C. Hower*

4:20 ENVR 105. Recovering rare earth elements (REEs) from coal fly ash using hydrothermal extraction and ligand-associated media sorption. *T.M. Dittrich, S.K. Mohanty, S.P. McElmurry, M.J. Allen*

4:40 ENVR 106. Extracting the rare earth elements (REE) from coal fly ash via the combination of physical separation and chemical extraction techniques. *Y. Soong, R. Lin, B. Howard, E.J. Granite, C. Lopano, E. Roth, M. Stuckman*

5:00 ENVR 107. Enrichment of rare earth elements (REEs) from coal and coal by-products. *F. Shi, Y. Soong, M.L. Gray*

5:20 Discussion.

SECTION G

Boston Convention & Exhibition Center
Room 259A

SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal

Cosponsored by CEL

Financially supported by SETAC North America

K. Chu, F. Xiao, *Organizers*

J. Liu, M. F. Simcik, *Organizers, Presiding*

1:30 ENVR 108. The reduction of PFAS: A physical organic perspective. *D. van Haamissen, S. Vyas*

1:55 ENVR 109. Single-atom platinum on silicon carbide for photocatalytic PFOA degradation. *D. Huang, G.d. Vera, C. Chu, Q. Zhu, E. Stavitski, J. Mao, H. Xin, J. Spies, C.A. Schmuttenmaer, J. Niu, G.L. Haller, J. Kim*

2:20 ENVR 110. Materials for photocatalytic oxidative and reductive mineralization of per/poly-fluorinated contaminants. *E.L. Cates, M. Qanbarzadeh*

2:45 ENVR 111. Generation of PFOA and PFOS from precursor compounds during conventional drinking-water treatment. *F. Xiao, R. Hanson, S. Golovko, M. Golovko, W. Arnold*

3:10 Intermission.

3:30 ENVR 112. Ultrasonic degradation of an emerging perfluoro ether, Gen X. *D. Cui, A.M. Mebel, K.E. O'Shea*

3:55 ENVR 113. Long-chain perfluoroalkyl substances (PFASs) affect the bioconcentration and tissue distribution of short-chain PFASs in zebrafish (*Danio rerio*). *X. Xia, W. Wen*

4:20 ENVR 114. Accumulation and toxicity of perfluorooctanoic acid and perfluoroalkyl alternatives on earthworms (*Eisenia fetida*) and terrestrial plants. *C. Chen, S. Yang, K. Martinez, Y. Liu, T.L. Wade, K. Chu*

4:45 ENVR 115. Accessing information for per- and polyfluoroalkyl substances using the US EPA CompTox Chemistry Dashboard. *A.J. Williams, A. McEachran, M. Strynar, C. Grulke, K. Mansouri, G. Patlewicz, R. Sams, E. Schymanski, A. Richard*

SECTION H

Boston Convention & Exhibition Center
Room 258B

Advances in Sensors & Biosensors for Environmental Monitoring

Cosponsored by ANYL and BIOL

J. Berberich, T. Li, E. Sahle-Demessie, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 ENVR 116. A phage-based lab-on-a-filter for the rapid, quantitative, and single cell detection of *E. coli* in drinking water. *T.C. Hinkley, J. Talbert, S.R. Nugen*

2:00 ENVR 117. A portable cellphone based microbial pathogen detection system for water quality analysis. *X. Huang, X. Lin, K. Urmann, L. Li, M.R. Hoffmann*

2:25 ENVR 118. Intelligent water treatment systems and the role of online water quality instruments. *V. Dozortsev, M. West, R. Bacon*

2:50 ENVR 119. Detection and quantification of organic water pollutants by cellulose nanofibrils (CNF) based raman spectroscopic sensor. *M. Hossen, M.D. Mason*

3:15 Intermission.

3:25 ENVR 120. Photoionization detector with sealed or windowless discharges for ppb detection of VOC's or and or fixed gases. *J.N. Driscoll, J.L. Maclachlan*

3:50 ENVR 121. Carbohydrate sensing using water-soluble poly(methacrylic acid)-co-3-(acrylamide)phenylboronic acid co-polymer. *X. Liang, M.C. Trentle, V.A. Kozlovskaya, E.P. Kharlampieva, M. Bonizzoni*

4:15 ENVR 122. Three-dimensional graphene-based nanomaterials for pollutants detection. *H. Zhao, B. Tan, F. Yuan, X. Quan*

4:40 ENVR 123. Optofluidic platform for enhanced IR microscopic nanoliter sensing. *C. Kratz, A. Furchner, T.W. Oates, D. Janasek, K. Hinrichs*

5:05 ENVR 124. On-site soil nutrient analysis system for small-holding farmers utilizing printed solid-state ion-selective electrodes. *M. Arnold, M.S. Bono, N. Mallareddy, R. Rosenberg, S. Braganza, R. Karnik, C. Vaishnav, A. Hart*

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Synergistic Approaches to Lignocellulosic Biomass Research

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

SUNDAY EVENING**Microbial Chemical Processes & Advanced Nanotechnology for Contaminated Site Remediation**

Sponsored by GEOC, Cosponsored by ENVR

MONDAY MORNING**SECTION A**Boston Convention & Exhibition Center
Room 160C**Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang**

Cosponsored by ANYL and GEOC

W. Chen, D. D. Dionysiou, J. Liu, V. K. Sharma, B. Yan, Organizers

Y. Cai, Z. Lin, Presiding

8:15 ENVR 125. Chemical composition and droplet size distribution of cloud and new particle formation at Mt. Tai, China. *J. Chen***8:40 ENVR 126.** Species-specific sensitivity of two ecologically different earthworms to TBBPA in soil. *X. Chen, J. Gu, X. Wang, R. Ji***9:05 ENVR 127.** Multiple-level structures of biochars and soil remediation applications. *B. Chen, X. Xiao***9:30 ENVR 128.** Particle acidity and sulfate production during severe haze in China. *R. Zhang, G. Wang***9:55** Intermission.**10:15 ENVR 129.** Biodegradation of polycyclic aromatic hydrocarbons in the Mangrove environment. *K. Yuan, L. Luo, C. BaoWei, T. Luan***10:40 ENVR 130.** Water stable metal-organic frameworks for the detection and removal of pollutants. *H. Zhou, P. Zhang, J. Li***11:05 ENVR 131.** UV/chlorine treatment on the DBP formation and toxicity alternation. *J. Fang, Y. Cui***11:30 ENVR 132.** Mechanistic study of Pb(II) removal by activated carbon: spectroscopy, DFT calculations, and the effect of co-existing ions. *Q. Shi, X. Meng, V. Prigiobbe***SECTION B**Boston Convention & Exhibition Center
Room 161**Advances in Carbon Nanomaterial Design & Applications for Environmental Sustainability**

L. M. Gilbertson, Organizer

F. Perreault, Organizer, Presiding

8:00 Introductory Remarks.**8:05 ENVR 133.** Nanocarbon design for environmental health and safety. *R. Hurt***8:40 ENVR 134.** Graphene based electrodes for label-free impedimetric biosensing. *M. Sijaj***9:00 ENVR 135.** Intrinsic wettability of carbon materials and its implications. *H. Liu***9:20 ENVR 136.** Ultrastrong graphene oxide-cellulose nanocrystal porous 3D macrostructures for removal of water contaminants. *N. Yousefi, K. Wong, A. Filina, M.A. de Franco, R. Allgayer, H.O. Sorensen, S. Bruns, Y. Zheng, N. Tufenkji***9:40** Intermission.**10:00 ENVR 137.** Adsorption of tetrahydrocannabinol (THC) by three generations of carbon-based adsorbents. *A. Khalid, O. Apul***10:20 ENVR 138.** Application of g-C₃N₄ in enrichment and separation of nuclides in HLLW. *H. Li***10:40 ENVR 139.** Shape matters: Cr (VI) removal using iron nanoparticle impregnated 1-D vs 2-D carbon nanohybrids prepared by ultrasonic spray pyrolysis. *N. Aich, A. Masud, J.D. Atkinson, Y. Cui***11:00 ENVR 140.** Dual optimization of microporosity in carbon spheres for superior CO₂ capture. *A.C. Dassanayake, M. Jaroniec***11:20 ENVR 141.** Covalent crosslinked graphene aerogel with stable structure for water purification. *C. Cheng, X. Zhu, B. Chen***11:40 ENVR 142.** Efficiently generating purified water and salinity gradient energy by using a freestanding graphene oxide membrane. *X. Tong, S. Liu, Y. Chen***SECTION C**Boston Convention & Exhibition Center
Room 162A**Emerging Challenges in the Era of Drinking Water Insecurity & Inequality & the Search for Low-Cost Solutions**

Cosponsored by CMA

J. L. Sarquis, Organizer

P. M. Gordon, A. Katner, Organizers, Presiding

8:00 Introductory Remarks.**8:10 ENVR 143.** Enhanced purified water production by artificial phototropic solar vapor generator based on nanophotonic hydrogel. *X. He, X. Qian, Y. Alsaied, Y. Zhao***8:30 ENVR 144.** Tackling water contamination issues using SPCs and the implementation of traditional knowledge and chemistry. *R.L. Tosie, E. Rosenberg***8:50 ENVR 145.** Functionalized biochar for removal of discarded prescription drugs. *L.C. Fernandez, V. Slavina, F. Sarmiento***9:10 ENVR 146.** Selective microbial control in drinking water systems using bacteriophages conjugated with superparamagnetic nanoparticles. *P. Yu, P.J. Alvarez***9:30 ENVR 147.** Addressing contributory factors in the dissolution of heavy metals from zinc coated iron water supply pipes with flow conditions typical of developing countries. *D. Bhaskar, G. Singh***9:50** Intermission.**10:05 ENVR 148.** Assessment of water quality in Puerto Rico after Hurricane Maria. *F.L. Rosario, M. Warren, M. Hernandez, R. Rodriguez, M. Crespo-Medina, G. Ramirez***10:25 ENVR 149.** Challenges faced by private well owners in the aftermath of the 2016 Louisiana floods. *A. Katner, K. Pieper, D. Dai, W. Rhoads, S. Straif-Bourgeois, A. Pruden, M. Edwards***10:45 ENVR 150.** Study for a low-cost alternative to treat water on an island off the southeastern Brazilian coast. *D.C. Meissner***11:05 ENVR 151.** Evaluation of a silver-embedded ceramic tablet as secondary point-of-use water purification technology in Darbonne, Leogane, Haiti. *M. Nonglaton***11:25** Concluding Remarks.**SECTION D**Boston Convention & Exhibition Center
Room 162B**Environmental Health & Safety of Emerging Chemicals & Technologies**

Cosponsored by AGRO, ANYL and CEI

S. Huo, B. Zhang, Organizers

Y. Li, X. Pan, Organizers, Presiding

8:30 Introductory Remarks.**8:35 ENVR 152.** EPA Comptox Chemistry Dashboard as a data integration hub for environmental chemistry data. *A.J. Williams, A. McEachran***8:55 ENVR 153.** Impacts of metal oxide nanoparticles on reproduction, neurological behavior, and gene expression in *Caenorhabditis elegans*. *X. Pan, L. Huo, T.E. Thornburg, T. Umeofia***9:15 ENVR 154.** Exposure to acrylamide disrupts cardiomyocyte interactions during ventricular morphogenesis in zebrafish. *M. Huang, J. Jiao, Y. Zhang***9:35 ENVR 155.** Short-term exposing effects of persistent organic pollutants on liver mitochondrial function of zebrafish (*Danio rerio*). *E. Ko, K. KIM, M. CHOI, S. SHIN***9:55 ENVR 156.** Pharmaceutical exposure changed bacterial community and antibiotic resistance gene profiles in surface- and overhead-irrigated greenhouse lettuce. *Y. Shen, W. Zhang, R. Stedfeld, X. Guo, G. Bhalsood, S. Jeon, J. Tiedje, H. Li***10:15** Intermission.**10:35 ENVR 157.** Physicochemical properties and health implications of airborne incidental nanoparticles. *N.I. Gonzalez Pech, L.V. Stebounova, I. Ustunol, J. Park, R. Anthony, T. Peters, V.H. Grassian***10:55 ENVR 158.** Dietary exposure to short- and medium-chain chlorinated paraffins in meat and aquatic products from China. *H. Huang, R. Wang, L. Gao***11:15 ENVR 159.** Loss of phospholipid membrane integrity induced by two-dimensional nanomaterials. *I. Zucker, J. Werber, Z. Fishman, S. Hashmi, U. Gabinet, X. Lu, C.O. Osuji, L. Pfeifferle, M. Elimelech***11:35 ENVR 160.** *In Silico* investigation on the metabolic mechanisms of selective environmental contaminants catalyzed by the active species of P450 enzymes. *Z. Fu, J. Chen, Z. Wang***11:55** Discussion.**SECTION E**Boston Convention & Exhibition Center
Room 260**Citizen Science & Chemistry**

Cosponsored by CEI and CHED

E. Schoffers, Organizer

W. H. Batschelet, S. O. Obare, Organizers, Presiding

8:00 Introductory Remarks.**8:05 ENVR 161.** Citizen Science: Empowering communities and engaging regulators. *D. Szaro***8:30 ENVR 162.** Maple producers play key role in use of tree sap to monitor tree health in a changing environment. *W.C. Shortle***8:50 ENVR 163.** Citizen science as a quantitative tool for temporal and spatial water quality assessment. *S. Bartelt-Hunt, A. Kolok, J. Ali***9:10 ENVR 164.** Data review and clean-up using crowdsourced input via the US EPA Comptox Chemistry Dashboard. *A.J. Williams, K. Paul-Friedman, C. Grulke, E. Schymanski, J. Edwards***9:30** Intermission.**9:40 ENVR 165.** From polymath to specialist and the making of unscientific America. Why should chemists care about citizen science? *E. Schoffers***10:00 ENVR 166.** Activating public support for science: Educating citizens for science. *D. Kriner, J.L. Goldfarb***10:20 ENVR 167.** Real world narrative risk framing for the benefit of Earth and its people. *K.E. Peterman***10:40 ENVR 168.** An eCLEAR interactive climate science literacy tool. *G.P. Foy, R. Hill Foy***11:05 ENVR 169.** Scientist citizen credibility in a climate disrupted world. *J.A. Bell***11:25 ENVR 170.** Citizen science...for the benefit of Earth and its people. *B.Z. Shakhshiri***11:45** Panel Discussion.**SECTION F**Boston Convention & Exhibition Center
Room 259B**Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency**

Cosponsored by AGRO, ENFL and I&EC

N. Love, K. Nelson, K. Wigginton, Organizers

K. Chandran, W. Tarpeh, Organizers, Presiding

8:00 ENVR 171. Flexible biochemical platforms for resource recovery from waste. *K. Chandran***8:25 ENVR 172.** Recovery of resources and energy using waste-derived biogas methane. *J. Myung***8:45 ENVR 173.** Anaerobic digestion of sewerage sludge treatment for energy recovery: Case study of an urban district. *B. Thi Thuy, V. Nguyen***9:05 ENVR 174.** Dissecting microbial community shifts during anaerobic co-digestion of fat, oil and grease (FOG). *M. Kurade, S. Saha, D. Kim, S. Govindwar, B. Jeon***9:25 ENVR 175.** Metal and sulfate removal from mining impacted water using a pilot-scale passive reactor. *P. Pinto, S.R. Al-Abed, J. McKernan***9:45** Intermission.**9:55 ENVR 176.** Recovery of ammonia and phosphate minerals from agricultural wastewater. *M. Vanotti***10:20 ENVR 177.** Energy and nutrient recovery from hydrothermal process co-products. *Y. Li, W. Tarpeh, K. Nelson, T.J. Strathmann***10:40 ENVR 178.** Synchronous recovery of *Chlorella vulgaris*, nitrogen and phosphate from simulated wastewater by MgO modified diatomite: Interaction mechanism. *J. Li, X. Wang***11:00 ENVR 179.** Waste² to Energy Processing: HTL upgrading of food waste using inexpensive, alkaline waste catalysts. *A.R. Maag, A. Paulsen, T. Amundsen, P. Yelvington, G. Tompsett, M.T. Timko***11:20 ENVR 180.** Life cycle assessment of wastewater nutrient recovery through struvite precipitation. *M. Sena, A.L. Hicks***11:40 ENVR 181.** Removal of orthophosphate from aqueous solutions by inorganic nanoparticles: Distinguishing between adsorption and precipitation mechanisms. *Y. Zhi, D.F. Call, J.L. Jones, J.M. Harrington, Y. Liu, D. Knappe***SECTION G**Boston Convention & Exhibition Center
Room 259A**SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal**

Cosponsored by CEI

Financially supported by SETAC North America

K. Chu, J. Liu, M. F. Simcik, *Organizers*

F. Xiao, *Organizer, Presiding*

M. Sun, *Presiding*

8:15 ENVR 182. Optimization of soil extraction methods for comprehensive profiling of perfluoroalkyl and polyfluoroalkyl substances derived from firefighting foams. G. Munoz, P. Ray, S. Vo Duy, T. Do, S. Mejia-Avenida, J. Liu, S. Sauvé

8:40 ENVR 183. Novel porous polymer monolith for the extraction of per- & poly-fluoroalkyl compounds from environmental matrices. S. Thomas, D. Arrua, H.J. Wirth, W.B. Hon, R. Barber, A. Gooley, P. Nesterenko, A. Juhasz, E.F. Hilder

9:05 ENVR 184. Enhancing the total oxidizable precursor assay for environmental samples containing per- and polyfluoroalkyl ether acids. C. Zhang, Z. Hopkins, M. Strynar, A. Lindstrom, J. McCord, D. Knappe

9:30 ENVR 185. LC-MS/MS analysis of polyfluoroalkyl substances in non-drinking water samples. K. Organtini, K.J. Rosnack, G. Cleland

9:55 Intermission.

10:15 ENVR 186. Oxidation of PFAS with small radical molecules: A theoretical perspective. D.J. Van Hoomissen, S. Vyas

10:40 ENVR 187. Mechanisms of electrochemical oxidative degradation of poly- and perfluoroalkyl substances by porous titanium suboxide anodes. R.D. Pierce, H. Shi, Q. Huang, J. Lu

11:05 ENVR 188. Removing perfluoroalkyl acids (PFAAs) from water Using functionalized hydrogel sorbent. P. Huang, M. Hwangbo, J. Kameoka, K. Chu

11:30 ENVR 189. Optimization of total adsorbable organic fluorine analysis in environmental water samples. V.F. Pulikkal, M. Sun

11:55 Concluding Remarks.

SECTION H

Boston Convention & Exhibition Center
Room 258B

Advances in Sensors & Biosensors for Environmental Monitoring

Cosponsored by ANYL and BIOL

J. Berberich, T. Li, E. Sahle-Demessie, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 190. Field portable sensors for detection of emerging environmental contaminants. E. Andreescu

8:30 ENVR 191. Novel Self-powered aptasensor for hazardous environmental pollutants detection based on enzyme biofuel cell. M. Liu, Y. Wang, H. Lu, C. Sun, G. Zhao

8:55 ENVR 192. Highly sensitive paper-based colorimetric sensors for fumigants. P. Tang, G. Sun

9:20 ENVR 193. Establishing optical sensing platforms using 2D metal-organic framework nanosheets for antibiotics detection. B. Tan, H. Zhao, W. Wu, X. Qian

9:45 Intermission.

9:55 ENVR 194. A miniaturized fiber-optic fluorescence analyzer for detection of Picric acid explosive from commercial and environmental samples. I. Terry, S.S. Dasary, A.K. Singh, K.S. Lee, H. Yu, P.C. Ray

10:20 ENVR 195. Characterization of engineered nanoparticles under complex environmental conditions for space applications. S. Joo, X. Scott

10:45 ENVR 196. Inhibition-based biosensors for arsenic detection. J. Berberich, T. Li, E. Sahle-Demessie, S. Zeh, J. Hostert, C. Cash, S. Minderleau

11:05 ENVR 197. Chemical fingerprinting of polycyclic aromatic hydrocarbons by fluorescent conjugated polymers. N.J. White, J. Trapp, J.D. Azoulay, M. Bonizzoni

11:30 ENVR 198. CNT-based carbon monoxide sensors with voltage-modulated sensitivity. S. Savagatrup, V. Schroeder, T.M. Swager

11:55 Concluding Remarks.

SECTION I

Boston Convention & Exhibition Center
Room 257B

Synthetic Biology: The State of the Science

Cosponsored by CEI, COMSCI and PRES

C. Henry, S. O. Obare, *Organizers*

A. M. Noce, K. M. Omberg, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 ENVR 199. Genome editing the future: Challenges and opportunities in synthetic biology. J. Doudna

9:20 ENVR 200. Function is more important than sequence. S. Richardson

9:50 ENVR 201. Biodefense in the age of synthetic biology. P. Carr

10:20 Intermission.

10:30 ENVR 202. Making "sense" of metabolic engineering. K.L. Jones Prather

11:00 ENVR 203. Discovery and characterization of novel feedback control mechanisms in synthetic gene networks: From principled models to deep learning. E. Yeung

11:30 ENVR 204. DNA synthesis science at the DOE Joint Genome Institute: Biosecurity sequence screening and broader aspects review. N. Hillson

12:00 Discussion.

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces

Sponsored by GEOC, Cosponsored by COLL and ENVR

Rational Design of Multifunctional Renewable-Resourced Materials

CNC/CNF Nanocellulose Composites

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

Pesticide Spray Drift: Application, Evaluation & Mitigation

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Fate & Metabolism of Xenobiotics: In Vitro & In Silico Studies

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Reducing Uncertainty in Modeling the Environmental & Human Health Exposure to Agrochemicals

Sponsored by AGRO, Cosponsored by CHAS and ENVR

MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 160C

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Cosponsored by ANYL and GEOC

W. Chen, D. D. Dionysiou, J. Liu, V. K. Sharma, B. Yan, *Organizers*

B. Chen, R. Zhang, *Presiding*

1:00 ENVR 205. Overview of destruction of cyanotoxins advanced oxidation processes. X. Duan, M. Kong, D.D. Dionysiou

1:25 ENVR 206. Effects of periphyton presence on the distribution of mercury in water in the Florida Everglades. Y. Xiang, A. Anjum, G. Liu, D. Wang, Y. Cai

1:50 ENVR 207. Concentrations and bioaccessibility of methylmercury in rice-based infant cereals. G. Liu, W. Cui, Y. Li, B. Meng, M. Ojeda, Y. Cai

2:15 ENVR 208. Chemicals parental exposure causing transgenerational effects on offspring in zebrafish. B. Zhou

2:40 Intermission.

3:00 ENVR 209. Advances in the field of biosensors for the environmental monitoring of cyanotoxins. V. Vogtazi, V.N. Shanov, W.R. Heineman, D. Dionysiou

3:25 ENVR 210. Recycling of heavy metal from nano-sludge via crystal growth manipulation. Z. Lin, H. Deng, W. Liu, X. Liu, C. Tian

3:50 ENVR 211. Initial environmental impacts of Sb mine tailing spill into the Jialing River. F. Guo

4:15 ENVR 212. Environmental behaviors and toxicities of silver nanoparticles. G. Qu, G. Jiang

4:40 Concluding Remarks.

SECTION B

Boston Convention & Exhibition Center
Room 161

Advances in Carbon Nanomaterial Design & Applications for Environmental Sustainability

F. Perreault, *Organizer*

L. M. Gilbertson, *Organizer, Presiding*

1:00 ENVR 213. Surface modification of nanocellulose; balancing enhanced materials properties with environmental impacts. H. Fairbrother, B. Frank, E.R. Caudill, J.A. Pedersen, M. Curry, L. Zhu, D. White, D.P. Durkin

1:35 ENVR 214. Redesigning nanomaterials and nanotoxicity assays: Understanding the role of MWCNT properties on embryonic zebrafish mortality. M.M. Falinski, M.A. Garland, S. Hashmi, R.L. Tanguay, J.B. Zimmerman

1:55 ENVR 215. Revealing causative mechanisms of electrochemical and biological activities of graphene via heteroatom functionalization. Y. Wang, L.M. Gilbertson

2:15 ENVR 216. Controlled alignment of graphene oxide nanosheets to elucidate the effect of nanosheet orientation on antibacterial activity. X. Lu, X. Feng, J. Werber, C. Chu, I. Zucker, J. Kim, C.O. Osuji, M. Elimelech

2:35 Intermission.

2:55 ENVR 217. Characterization and toxicity assessment of graphene oxide-based nanohybrids. S. Baek, S. Joo, C. Su

3:15 ENVR 218. Inductive heating based membrane distillation: Role of CNT-Fe membranes. A. Ronen, A. Anvari

3:35 ENVR 219. Monte Carlo simulations of layered 2-D nanomaterials: Understanding the influence of framework defects during membrane separation. C. Ritt, J. Werber, A. Deshmukh, M. Elimelech

3:55 ENVR 220. Zwitterion functionalized graphene oxide nanocomposite nanofiltration membrane with improved water flux and antifouling properties. S. Rahaman

4:15 ENVR 221. pH responsive graphene based membrane for controllable molecular sieving. L. Zhang, X. Zhu, B. Chen

4:35 ENVR 222. Gypsum scaling on graphene oxide modified reverse osmosis membrane. B. Cao, A. Ansari, X. Yi, D.F. Rodrigues, Y. Hu

4:55 Concluding Remarks.

SECTION C

Boston Convention & Exhibition Center
Room 162A

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Thermochemical & Biochemical Processes

Cosponsored by CATL, CELL, ENFL and I&EC

G. Chen, J. L. Goldfarb, P. He, M. T. Timko, M. Volpe, M. Zhao, *Organizers*

L. Fiori, F. Li, R. Volpe, *Organizers, Presiding*

1:00 Introductory Remarks.

1:10 ENVR 223. Thermal breakdown in coal and biomass: Relationship between reactor design and product distributions. R. Volpe, R. Kandiyoiti

1:35 ENVR 224. Thermogravimetric and kinetic analysis of catalytic and non-catalytic co-pyrolysis of microalgae and digested sludge residue. A. Vuppalaadiyam

2:00 ENVR 225. Catalytic hydrothermal processing of lipids and fatty acids to hydrocarbons over Ru/C without addition of external hydrogen. J. Zhang, X. Huo, Y. Li, T.J. Strathmann

2:25 ENVR 226. Catalytic reforming of toluene over Ni- and Fe-based catalysts in a DBD plasma reactor. Y. Sun, L. Liu

2:50 Intermission.

3:00 ENVR 227. Multiple thermochemical pathways for municipal solid waste valorization to biofuels and bioproducts. S. Del Bianco, L. Fiori, L. Gao, J.L. Goldfarb, G. Ischia, M. Lucian, M. Volpe

3:25 ENVR 228. Chemical pathways in thermal decomposition of citrus waste via slow pyrolysis. R. Volpe, J.M. Bermúdez Menendes, T. Ramirez Reina, M. Ttirici, A. Messineo, M. Millan

3:50 ENVR 229. One-step enzymatic treatment of lignocellulosic biomass using immobilized cellulase and xylanase. M. Hwangbo, J. Tran, K. Chu

4:15 ENVR 230. Complete valorization of wastewater algae via an integrated thermo- and electrochemical processing strategy. Y. Li, W. Tarpeh, K. Nelson, T.J. Strathmann

4:40 ENVR 231. Microwave-assisted hydrothermal carbonization of waste plant materials: An approach for improving their energy and adsorption properties. S. Elaigwu

SECTION D

Boston Convention & Exhibition Center
Room 162B

Environmental Health & Safety of Emerging Chemicals & Technologies

Cosponsored by AGRO, ANYL and CEI

S. Huo, B. Zhang, *Organizers*

Y. Li, X. Pan, *Organizers, Presiding*

1:00 ENVR 232. Degradation of polycyclic aromatic hydrocarbons in subcritical water. *Y. Yang*

1:20 ENVR 233. Removals of chain-like and pin-like freshwater algae by positive ferric-microbubble flotation. *B. Thi Thuy, M. Han, V. Nguyen*

1:40 ENVR 234. Occurrence, formation, and control of taste and odor compound 2,4,6-trichloroanisole in drinking water systems. *H. Zhang, X. He, H. Shi, Y. Ma, T.C. Ganz, T. Eichholz*

2:00 ENVR 235. Using a freshwater green alga to remove seven endocrine disrupting chemicals (EDCs) from municipal wastewater effluents. *X. Bai, K. Acharya*

2:20 ENVR 236. Environmental risks of sulfamethazole and sulfamethoxazole, and their preferential biodegradation from a mixture by a green microalga, *Scenedesmus obliquus*. *J. Xiong, M. Kurade, H. Ahn, B. Jeon*

2:40 Intermission.

3:00 ENVR 237. Understanding extracellular polymeric substances impact on lead release in drinking water plumbing systems. *Y. Gao, B.F. Trueman, A.K. Stoddart, G.A. Gagnon*

3:20 ENVR 238. Toward comprehensively evaluating the daytime potential of piperazine to form carcinogenic nitrosamines: Atmospheric oxidation of piperazine by atomic chlorine. *F. Ma, H. Xie, J. Chen*

3:40 ENVR 239. New transformation pathway of parabens in plants: Transesterification with alcohols. *X. Gong, L. Wang*

4:00 ENVR 240. Experimental determination and QSAR model for reaction rate constants of hydroxyl radicals with different dissociation species of antibiotics. *X. Luo, X. Wei, J. Chen*

4:20 Discussion.

4:30 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Room 260*

Microplastic Pollution: Sources, Sinks & Solutions

Cosponsored by ANYL and CEI
S. Bartelt-Hunt, N. Fahrenfeld, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 ENVR 241. Environmental loading estimates and fate of microplastics from municipal wastewater treatment. *B. Sturm, S. Bagchi, Y. Hiripitiyage, T. Mayo, J. Handley*

1:45 ENVR 242. Synthetic microfiber existence and dispersion in a Lake Michigan watershed. *C.R. Iccaman, J.R. Peller*

2:15 ENVR 243. Role of bed sediments as a sink for microplastics. *S. Elsaker, K. Parrish, N. Fahrenfeld*

2:45 Intermission.

3:00 ENVR 244. Fast screening of microplastics abundance by a highly-selective fluorescent dye. *J. Li, H. Liu, J. Chen*

3:30 ENVR 245. The abundance of microplastics in freshwater shoreline sediments. *S. Bartelt-Hunt, N. Naderi, Z. Mahon*

4:00 ENVR 246. Occurrence of microplastics in human faeces of children in Tianjin, China. *J. Zhang, Y. Peng, L. Wang*

4:30 ENVR 247. Plastic chemicals in coastal water and beach areas surrounding Japan. *H. Kimukai, K. Amamiya, T. Yoneda, K. Koizumi, K. Takatama, Y. Kodera, S. Chung, K. Saïdo, T. Hiaki*

4:55 Concluding Remarks.

SECTION F

*Boston Convention & Exhibition Center
Room 259B*

Environmental Biofilm Engineering: Harnessing the Power of Biofilms for Contaminant Removal & Resource Recovery

Cosponsored by BIOL
H. Beyenal, B. Cao, R. Nerenberg, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 ENVR 248. H₂-utilizing biofilm embedded with palladium nanoparticles (PdNP-Biofilm): Assembly, characterization, and application in enhancing denitrification. *C. Zhou, B.E. Rittmann*

1:25 ENVR 249. Spatially resolved abundances of antibiotic resistance genes in biofilms for wastewater treatment. *M. Petrovich, A. Rosenthal, J. Griffin, G. Wells*

1:45 ENVR 250. Interaction between silver nanoparticles and model wastewater biofilm. *C. Walden, W. Zhang*

2:05 ENVR 251. Electrochemical and chemical gradients in electrochemically active biofilms. *H. Beyenal*

2:25 ENVR 252. Resource recovery from wastewater using bioelectrochemical systems: Moving forward with functions. *A. Jain, Z. He*

2:45 Intermission.

3:00 ENVR 253. Formation of phototrophic granular biofilms for oxygenic wastewater treatment. *M. Hann, S. Downes, J. Rodriguez, C. Butler*

3:20 ENVR 254. Micro-scale determinants of bacterial biofilm formation in soils. *P. Cai*

3:40 ENVR 255. Production of extracellular polymeric substances during long term starvation of *Pseudomonas putida* biofilms in sand columns and their effects on adhesion to quartz sand: A multiscale study. *N.I. Abu Lail, S. Ramezani-keikanloo, C. Kang*

4:00 ENVR 256. Fast-growing can be an alternative strategy to fast-settling taken by microorganism to survive extreme selection pressures in aerobic granulation reactors. *Y. Sun, Z. Wang*

4:20 ENVR 257. Biofilm biology-informed biofilm engineering for environmental biotechnology. *B. Cao, Y. Hu, M. Mukherjee*

4:40 Concluding Remarks.

SECTION G

*Boston Convention & Exhibition Center
Room 259A*

Showing Emerging Investigators: A Symposium by the RSC Environmental Science Journals

Cosponsored by ENVR and PROF
Financially supported by Royal Society of Chemistry
S. Keltie, *Organizer*

D. M. Cwiertny, K. McNeill, *Organizers, Presiding*

P. J. Vikesland, *Presiding*

1:00 Introductory Remarks.

1:05 ENVR 258. Formation and effects of heterogeneous protein-humic surface coatings on nanoparticles. *S.M. Louie, S. Shakiba*

1:35 ENVR 259. Using carbon nanomaterials to address the grand challenge of clean water for all people. *R.E. Rogers*

2:05 ENVR 260. Understanding long-range transport of perfluoroalkyl substances and flame retardants. *C. Young*

2:35 ENVR 261. Reactions at the Fe mineral-water interface: Impact on contaminant fate. *B.L. Huhmann, K.A. Rothwell, M. Boyanov, K.M. Kemner, M. Scherer, A. Neumann*

3:05 Intermission.

3:20 ENVR 262. Viability and ecology-based tools to improve hazard characterization for environmental antibiotic resistance. *N. Fahrenfeld, S. Gallego, A. Eramo, T. Barkay*

3:50 ENVR 263. The who, where, and why of the drinking water microbiome. *A.J. Pinto*

4:20 Concluding Remarks.

SECTION H

*Boston Convention & Exhibition Center
Room 258B*

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Absorption

Cosponsored by GEOC
C. Huang, H. Kim, B. Pan, V. K. Sharma, *Organizers*

R. Doong, *Organizer, Presiding*

C. Dong, D. Lee, *Presiding*

1:00 Introductory Remarks.

1:05 ENVR 264. Simultaneous oxidation and sequestration of As(III) from water by using redox polymer-based Fe(III) oxide nanocomposite. *X. Zhang, Y. Zhang, B. Pan*

1:35 ENVR 265. Correlation between the degree of surface ionization and the capacitive deionization efficiency of doped MnO₂ electrodes. *S. Xu, T. Wang, C. Wang*

2:00 ENVR 266. Low-content nitrate removal from aqueous solutions by magnetic cationic hydrogel: Effect of electrostatic adsorption. *S. Dong, Y. Wang*

2:25 ENVR 267. Phosphate adsorption on lithium cobalt oxide nanoparticles impacts environmental presence and bioavailability. *E. Laudadio, D. Jones, P.I. Kashouli, J.W. Bennett, N. Kabengi, S.E. Mason, R.J. Hamers*

2:50 Intermission.

3:10 ENVR 268. Novel magnetic carboxyl modified hypercrosslinked resins for effective removal of typical PPCPs. *X. Jia, Q. Zhou, C. Shuang, K. Wang*

3:35 ENVR 269. Application of cyclodextrin-modified nanoparticles for removal of organic micropollutants. *W. Lu, L. Kong, J. Zhan*

4:00 ENVR 270. Selective and fluorescence visual adsorption system for efficient removal of highly dilute tetracyclines in water. *C. Shen, H. Chen, C. Ma, J. Liu*

4:25 ENVR 271. Enhanced removal of phosphate using an activated carbon electrode coated with an ion exchange layer in membrane capacitive deionization. *C. Hou, C. Hsu*

SECTION I

*Boston Convention & Exhibition Center
Room 257B*

Synthetic Biology: The State of the Science

Cosponsored by CEI[†], COMSCI and PRES

C. Henry, S. O. Obare, *Organizers*

A. M. Noco, K. M. Omberg, *Organizers, Presiding*

1:00 ENVR 272. Design, construction and analysis of a synthetic minimal bacterial cell. *J.I. Glass*

1:40 ENVR 273. Construction of a 57-codon genome. *N. Ostrov*

2:05 ENVR 274. What in the world does synthetic biology governance look like? *T. Kuiken*

2:30 Intermission.

2:45 ENVR 275. Data-driven cellular capacity optimization. *R. Egbert*

3:15 ENVR 276. Crop synthetic biology—past/present/future. *J. Okamura*

3:45 ENVR 277. Population-level genome re-sequencing targeting natural populations yields highly resolved molecular targets for biological engineering. *W. Muchero*

4:15 ENVR 278. Synthesis of genomes & proteomes with radically new properties. *G. Church*

4:55 Concluding Remarks.

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces

Sponsored by GEOC, Cosponsored by COLL and ENVR

Rational Design of Multifunctional Renewable-Resourced Materials

Synthesis of Renewable Materials

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

Uses of Mass Spectrometry in Agricultural Research & Development : New Trends & Best Practices

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Environmental Study Design: Current & Emerging Guidelines to Fulfill Regulatory Needs

Sponsored by AGRO, Cosponsored by ENVR

Undergraduate Research Posters

Environmental Chemistry

Sponsored by CHED, Cosponsored by ENVR and SOCED

Showing Emerging Investigators: A Symposium by the RSC Environmental Science Journals

Cosponsored by ENVR and PROF

MONDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Sci-Mix

J. L. Goldfarb, *Organizer*

8:00 – 10:00

74, 247. See previous listings.

371, 374, 546, 549, 557-559, 564-565, 573-574, 603, 605, 607-608, 619-621, 629-630, 633, 638, 642-643, 651, 654-655, 658, 665-667, 669, 717-718, 720, 732-733, 738, 740, 744-745, 749, 751-752, 754-757, 811. See subsequent listings.

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 160C*

Advanced Oxidation for Water Treatment: Applications & Implications

Various AOPs: Their Comparative Performance & Models to Study Them

E. Asenath Smith, K. Doudrick, D. Minakata, K. E. O'Shea, W. Song, *Organizers*

D. D. Dionysiou, G. Li Puma, *Organizers, Presiding*
D. Minakata, *Presiding*

8:00 Introductory Remarks.

8:05 ENVR 279. Cross comparison of advanced oxidation processes (AOPs) for remediation of organic pollutants in water treatment systems. *E. Asenath Smith, E. Ambrogi, L. Moores, W. Ballard, J. Brame*

8:30 ENVR 280. Degradation kinetics and cytotoxicity analysis of contaminants of emerging concern treated by UV/H₂O₂ in water reuse. *Y. Huang, M. Kong, Y. Liu, S. Coffin, D. Schlenk, K. Cochran, S.D. Richardson, D. Dionysiou*

8:55 ENVR 281. Autoxidation of gallic acid to generate reactive oxygen species for removal of organic micropollutants. *M. Smith, S. Putnam, B. Solomon, J.L. Ferry*

9:20 ENVR 282. Degradation of plant protection products from wastewater with advanced oxidation processes (AOP). *A. Mos-Hummel, K. Nonnenmacher*

9:45 Intermission.

10:00 ENVR 283. Development of efficient electrochemical anodes for organic pollutant destruction: From bench scale to full scale application. *J.C. Crittenden*

10:45 ENVR 284. Kinetic study of radical mediated oxidation of pharmaceutical and personal care products in wastewater effluents. *W. Song*

11:10 ENVR 285. Impact of chloride ions on UV/persulfate and UV/H₂O₂ advanced oxidation processes. *W. Zhang, J.C. Crittenden*

11:35 ENVR 286. Development of an agent-based model to understand and predict the fate of organic compounds in aqueous-phase advanced oxidation processes. *E. Coscarelli, R. Zupko, M. Rouleau, D. Minakata*

SECTION B

*Boston Convention & Exhibition Center
Room 161*

Fate of Nanomaterials in Consumer Products: Transformation & Transport in the Environment

S. R. Al-Abed, P. Potter, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 ENVR 287. Framework and pilot tool for the risk-based prioritization of nano-enabled consumer products. *T. Rycroft, I. Linkov*

8:55 ENVR 288. Aqueous transformation of indium tin oxide (ITO) nanoparticles with varying tin content. *J. Grundy, L.E. Katz, N.B. Saleh, M. Kirisits*

9:15 ENVR 289. The transport of nanoparticles from model polymer nanocomposites to the environment: influence of different acids and other environmental species. *P.J. Gray, J. Hornick, A. Sharma, R.G. Weiner, T.V. Duncan*

9:35 ENVR 290. Factors influencing quantum dot dissolution in aqueous environments. *P. Paydary, P. Laresse-Casanova*

9:55 ENVR 291. Effects on metal leaching from quantum dot polymer nanocomposites by simulated landfill conditions. *C.A. Johnson, A.M. Dennis, J.L. Goldfarb*

10:15 Intermission.

10:35 ENVR 292. Release of ZnO nanoparticles from coated surfaces: Effect of particle size and surface age. *J.G. Clar, S. Boggins, S. Thornton, T. Luxton*

10:55 ENVR 293. Determining the release of carbon nanotubes from CNT-polymer composites during accelerated weathering. *E. Sahle-Demessie, C. Han*

11:15 ENVR 294. Examining the impact of nanomaterials on HDPE landfill liners. *L. Boateng, J. Flora, N.D. Berge*

11:35 ENVR 295. Development of quantitative structure activity relationships (QSARs) for prediction of nanoparticle titanium dioxide (n-TiO₂) aggregation in the presence of high concentrations of emerging organic contaminants (EOCs). *J. Lee, S. Bartelt-Hunt, Y. Li*

SECTION C

*Boston Convention & Exhibition Center
Room 162A*

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Hydrogen, Biofuels & Biomass Upgrading

Cosponsored by CATL, CELL, ENFL and I&EC
G. Chen, L. Fiori, J. L. Goldfarb, P. He, F. Li, R. Volpe, *Organizers*

M. T. Timko, M. Volpe, M. Zhao, *Organizers, Presiding*

8:00 ENVR 296. Hydrogen production by Ca-alkaline thermal treatment of biomass. *X. Cui, X. Zhao, M. Zhao*

8:25 ENVR 297. Study on the hydrogen production possibility of the reaction between dry sewage sludge and alkaline. *F. Wang, Y. Fan, M. Zhao*

8:50 ENVR 298. Modulating lattice oxygen redox reactions in propane dehydrogenation. *S. Chen, L. Zeng, J. Gong*

9:15 ENVR 299. Supercritical water upgrading of gumweed-derived biocrude. *A. Saba, M. Reza*

9:40 Intermission.

9:55 ENVR 300. Detailed molecular compositions of citrus waste bio-oil: Application of ultra-high-resolution mass spectrometry. *D.C. Palacio, T. Ramirez Reina, R. Volpe, M. Barrow*

10:20 ENVR 301. Interaction of furan and benzene derivatives with palladium nanoparticle catalysts and the mechanism of conversion into biofuels. *L.O. Mark, J.W. Medlin, H. Heinz*

10:45 ENVR 302. Investigating reaction pathways for the formation of nitrogen heterocycles during hydrothermal liquefaction of microalgae. *R. Atwi, M.T. Timko, R.H. West*

11:10 ENVR 303. Recrystallizing ball-milled cellulose does not recover recalcitrance towards acid catalyzed hydrolysis. *M. Tyufekchiev, A. Kolodziejczak, P. Guerra, F. Greenway, M.T. Timko*

11:35 ENVR 304. Aldehyde chemistry using CeZrOx catalyst for aqueous hydrocarbon upgrading. *A.R. Maag, A. Paulsen, P. Yelvington, T. Amundsen, G. Tompsett, M.T. Timko*

SECTION D

*Boston Convention & Exhibition Center
Room 162B*

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Cosponsored by AGRO², ANYL and GEOC
N. Capiro, D. E. Helbling, M. Li, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 305. Aerobic cometabolism of 1,4-dioxane and mixtures of chlorinated aliphatic hydrocarbons by microorganisms grown on isobutane: Pure culture and microcosm kinetic studies. *H. Rolston, K. Krippenhahn, M. Azizian, M. Hyman, L. Semprini*

8:35 ENVR 306. Cometabolic degradation of 1,4-dioxane and Co-contaminants by a novel Gram-negative propanotrophic bacterial isolate. *M. Li, D. Deng, F. Li, C. Wu*

9:00 ENVR 307. Isolation of novel 1,4-dioxane degraders and investigation of responsible catabolic genes. *Y. Yang, M. Li, Y. He, J. Mathieu, P.J. Alvarez*

9:25 ENVR 308. Discovering and sorting potential 1,4-dioxane degrading bacteria by fluorescence in situ hybridization and flow cytometry using phylogenetic or functional oligonucleotide probes. *Y. Yang, M. Li, Y. He, J. Mathieu, P.J. Alvarez*

9:50 Intermission.

10:10 ENVR 309. Sustained in situ chemical oxidation (ISCO) of 1,4-dioxane and chlorinated VOCs using slow release chemical oxidant cylinders. *P.J. Dugan, P. Evans, M. Crimi, N. Ruiz, M. Lamar, J. Hooper, D. Nguyen*

10:40 ENVR 310. Laboratory and pilot-scale testing of alternative water treatment technologies for 1,4-dioxane-contaminated groundwater in Long Island, NY. *A. Venkatesan, Y. Tang, X. Mao, C. Gabler, H. Walker*

11:05 ENVR 311. Biodegradation potential of 1,4-dioxane in high salinity environment. *C. Chen, S. Lei, K. Chu*

11:30 ENVR 312. Polymerization in place: Enzymatic oxidation to immobilize polyfunctional halogenated aromatics in groundwater. *F. Wang, S. Frankenfield, T.M. Makris, J.L. Ferry*

11:55 Concluding Remarks.

SECTION E

*Boston Convention & Exhibition Center
Room 260*

Green Chemistry & the Environment

Cosponsored by CEI

A. Balu, R. Luque, *Organizers*

S. O. Obare, N. Vaidya, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 313. Latest technical advances towards green chemistry adoption. *D.J. Constable*

8:45 ENVR 314. Translating research into practical tools: A case study of GenRA, a new read-across tool. *A.J. Williams, G. Helman, J. Edwards, I. Shah, G. Patlewicz*

9:10 ENVR 315. Promoting safer chemical selection in textile auxiliaries: Success at reducing and eliminating CMRS and PBTs in the supply chain. *M.H. Whittaker*

9:35 ENVR 316. Achieving greater accuracy for toxicity estimation using the latest technologies. *N. Vaidya*

10:00 Intermission.

10:15 ENVR 317. Prediction of myocardial toxicity of HCFC-22 by MEMS cell device and computational toxicology. *T. Takakuwa, T. Hasegawa, H. Matsumoto, K. Kuramoto*

10:35 ENVR 318. Iron- and enzyme based tools for enhancing the value of biomass building blocks. *P. Dunas, A.J. Paterson, S.E. Lewis, N. Kann*

10:55 ENVR 319. Enzymatic characterization of a novel NADH dependent azoreductase from *Klebsiella pneumoniae*. *S. Dixit, S. Garg*

11:15 ENVR 320. Computational evaluation of mixtures of refrigerants, ionic liquids and deep eutectic solvents for absorption refrigeration systems. *R. Abedin, S. Heidarian, J. Flake, F. Hung*

11:35 ENVR 321. Developing an understanding of electronic waste flow for the United States. *E. Sahle-Demessie, J.A. Glaser, T. Richardson*

SECTION F

*Boston Convention & Exhibition Center
Room 259B*

Environmental Biofilm Engineering: Harnessing the Power of Biofilms for Contaminant Removal & Resource Recovery

Cosponsored by BIOL

H. Beyenal, B. Cao, R. Nerenberg, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 ENVR 322. Mycoremediation: Evaluating fungal metagenomics and biofilm association in PAH-contaminated estuarine sediments. *S. Volkoff, C.K. Gunsch*

8:55 ENVR 323. Electrically driving the microbial conversion of nitrogen gas into ammonia fuels and fertilizers. *D.F. Call, J. Ortiz Medina, A. Grunden, M. Hyman*

9:15 ENVR 324. Intimate coupling of photocatalysis and microbial fuel cell for enhanced 2,4,6-trichlorophenol degradation and power generation. *H. Hou*

9:35 ENVR 325. Kinetics-based method for determining the distribution of AOB and NOB in aerobic granular sludge in a microplate reader. *T. Kent, Z. Wang, C. Bott*

9:55 ENVR 326. *In Situ* molecular imaging of microbial communities. *X. Yu*

10:15 Intermission.

10:30 ENVR 327. Impact of biofilms on the retention of pathogens in engineered infiltration system (EIS). *Y. Zhang, A. Fraser, C. Wayner, S. Preheim*

10:50 ENVR 328. Gaseous volatile organic compounds removal and power generation in a microbial fuel cell. *S. Zhang, J. You, N. An*

11:10 ENVR 329. Mediating initial biofilm formation on biocarriers: From a perspective of QCM-D. *H. Huang, P. Peng, Y. Lin, H. Ren*

11:30 ENVR 330. Harnessing biofilm robustness in a Pilot Scale Membrane Aerated Biofilm Reactor (MABR) for process intensification. *S. Bagchi, D. Coutts, K. Gordon, D. Houweling, S. Sathyamoorthy*

11:50 Concluding Remarks.

SECTION G

*Boston Convention & Exhibition Center
Room 259A*

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Cosponsored by CEI and ENFL

X. Ling, *Organizers*

L. Arava, E. Ryan, *Organizer, Presiding*

8:15 Introductory Remarks.

8:20 ENVR 331. Defining conduction pathways in cathode materials: Resolving ionic logjams through atomistic design and mesoscale structuring. *S. Banerjee*

9:00 ENVR 332. Natural dye based organic lithium ion battery electrodes: Lithium storage mechanistic studies. *G. John, M. Miroshnikov, K. Kato, L. Arava, P.M. Ajayan*

9:25 ENVR 333. Mesoscale insights into Li-sulfur battery charge transport. *P.P. Mukherjee, A. Mistry*

9:50 ENVR 334. Electrochemically active electrodes for high energy density Li-S and Li-Ion sulfur batteries. *A. Sawas, G. Babu, N. Thangavel, L. Arava*

10:10 Intermission.

10:25 ENVR 335. Molecular rearrangements of chalcogenides for high energy density lithium batteries. *G. Babu, S. Susarla, A.M. Pullickel*

10:50 ENVR 336. Metallic MoS₂ for high performance energy storage and energy conversion. *H. Zhu, Y. Jiao*

11:15 ENVR 337. Rare earth nickelate cathodes for SOFCs in high oxygen partial pressure environments. *J. Banner, S. Gopalan*

11:35 ENVR 338. Common tattoo chemical for energy storage: Henna-inspired naphthoquinone materials for green lithium - ion batteries. *M. Miroshnikov, K. Kato, G. Babu, D. Kizhmuri Parappuram, L. Arava, P.M. Ajayan, G. John*

SECTION H

Boston Convention & Exhibition Center
Room 258B

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Absorption

Cosponsored by GEOC

R. Doong, C. Huang, H. Kim, B. Pan, V. K. Sharma, *Organizers*

Y. Shih, S. Virender K, J. Wang, *Presiding*

8:15 Introductory Remarks.

8:20 ENVR 339. Desorption role of *in situ* electrokinetics for remediating the lead contaminated soils. *J. Chang*

8:45 ENVR 340. Adsorption of sulfamethoxazole and sulfapyridine antibiotics in high organic content soils. *W. Chen, K. Chen*

9:10 ENVR 341. Uptake of phosphorus from water using red-mud-based ceramic media. *Y. Ahn, A. Maksachev, M. Kim, J.H. Lee, H. Kim*

9:35 ENVR 342. Agriculturally-relevant P(III)-containing mono-, di-, and tri-oxyanions - adsorption onto iron and manganese oxyhydroxides, and subsequent hydrolysis and oxidation reactions. *W. Liao, A.T. Stone*

10:00 Intermission.

10:20 ENVR 343. Fluoride at waste oyster shell surfaces: Role of magnesium. *H. Chang, Y. Kuo, J. Liu*

10:45 ENVR 344. Fluoride removal with aluminum and calcium modified sand in aqueous solution. *M. Hsieh, C. Huang, S. Park*

11:10 ENVR 345. Strontium removal from wastewater through co-precipitation with barite. *H. Hunter, F.T. Ling, J.P. Fitts, C.A. Peters*

11:35 ENVR 346. Formation and stabilization of Ag, Au, and Ag-Au bimetallic nanoparticles in natural environment: Role of dissolved organic matter. *V.K. Sharma, S. Banerjee*

Synthesis & Chemistry of Agrochemicals

ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

Rational Design of Multifunctional Renewable-Resourced Materials

Nanoparticle Structures & Properties

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY
Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks

Sponsored by AGRO, Cosponsored by ANYL and ENVR

TUESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 160C

Advanced Oxidation for Water Treatment: Applications & Implications

Various AOPs: UV/Chlorine & DOM, & Ions in Their Processes

E. Asenath Smith, D. D. Dionysiou, K. Doudrick, G. Li Puma, D. Minakata, *Organizers*
K. E. O'Shea, W. Song, *Organizers, Presiding*
D. Minakata, *Presiding*

1:30 Introductory Remarks.

1:35 ENVR 347. Destruction of Microcystin Variants by UV/chlorine process: Influence of variable amino acids on the degradation kinetics and reaction mechanism. *M. Kong, X. Duan, D.D. Dionysiou*

2:05 ENVR 348. N-nitrosamine, halogenated disinfection byproduct, and byproduct precursor control in UV/free chlorine and UV/H₂O₂ treatment trains: A parallel comparison in a pilot plant. *Y. Chuang, A. Szczuka, W. Mitch*

2:30 ENVR 349. Factors affecting the roles of reactive species in the degradation of micropollutants by the UV/chlorine process. *Z. Wu, K. Guo, X. Kong, J. Fang*

2:55 ENVR 350. Degradation of PPCPs by chlorine-UV advanced oxidation process in ammoniacal water. *P. Sun, R. Zhang, C. Huang, L. Zhao*

3:20 Intermission.

3:35 ENVR 351. Reactivity of chromophoric dissolved organic matter (CDOM) with sulfate radical: Reaction kinetics and structural transformation. *S. Zhang, V. Rouge, J. Croue*

4:00 ENVR 352. Transformation of dissolved organic matter in ultraviolet (UV) photolysis and UV-based advanced oxidation processes. *P. Varanasi, M. Khaksari, L.R. Mazzoleni, D. Minakata*

4:25 ENVR 353. Effect of seawater natural organic matter on oxidation process by ozone and bromine. *K. Kim, H. Kye, Y. Abriha, Y. Jung, S. Nam, I. Choi, J. Kang*

4:50 ENVR 354. Role of natural organic matter in photolytic and photocatalytic decomposition of ciprofloxacin in water. *S. Li, J. Hu, W. Sun*

SECTION B

Boston Convention & Exhibition Center
Room 161

Fate of Nanomaterials in Consumer Products: Transformation & Transportation in the Environment

S. R. Al-Abed, P. Potter, *Organizers, Presiding*

1:30 ENVR 355. Transformation of silver nanoparticles in consumer products during usage and disposal scenarios. *P. Potter, S.R. Al-Abed, J. Navratilova, K.R. Rogers*

1:55 ENVR 356. Assessing the interaction of silver nanoparticles with various artificial sweat formulations. *D.M. Pelloquin, A. Gitipour, E. Baumann, T. Luxton*

2:20 ENVR 357. Ag/LDPE nanocomposites as a model system to evaluate release from consumer products. *R.G. Weiner, A. Sharma, H. Xu, T.V. Duncan*

2:45 ENVR 358. Release of metal nanoparticles from painted surfaces in contact with water. *A. Abdul Rahim, S. Ghoshal*

3:10 Intermission.

3:30 ENVR 359. Chemical transformation of silver-nanomaterial containing textiles after disposal. *D.E. Gorka, J.M. Gorham*

3:55 ENVR 360. Release of silver nanomaterials from textiles: Influence of artificial wearing on nanomaterial characteristics. *D. Patch, V. Gagnon, I. Koch, D. O'Carroll, K.P. Weber*

4:20 ENVR 361. Toxicity and fate of pristine and aged silver nanomaterials in agricultural soil-plant systems. *D. Gray, V. Gagnon, D. O'Carroll, K.P. Weber*

4:45 ENVR 362. Fate and effect of wastewater-borne manufactured nanomaterials in aquatic ecosystems (FENOMENO). *B. Steinhoff, W.C. Muganda, H. Schonherr*

5:10 Concluding Remarks.

SECTION C

Boston Convention & Exhibition Center
Room 162A

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Biochars & Renewable Carbons

Cosponsored by CATL, CELL, ENFL and I&EC

L. Fiori, J. L. Goldfarb, F. Li, M. T. Timko, M. Volpe, M. Zhao, *Organizers*

G. Chen, P. He, R. Volpe, *Organizers, Presiding*

1:30 ENVR 363. Biochar as a substitute for carbon black in ink production. *V. Hulise, S. Williams, T. Trabold, S. Barber*

1:55 ENVR 364. Effect of air-oxidation of biomass chars on absorption of contaminants. *Y. Yang, J.J. Pignatello*

2:20 ENVR 365. Evaluation of biochar-amended biofilters for bisphenol A removal combined with batch sorption and fixed-bed column. *L. Lu, B. Chen*

2:45 ENVR 366. Potential of sewage sludge pyrolyzed biochar as soil amendment: Phosphorous speciation and recovery. *Y. Tang, M. Li, Y. Xia, B. Li*

3:10 ENVR 367. Speciation transformation of iron and sulfur during thermochemical processing of sewage sludges and its relevance to the sorptive property of sludge biochars. *R. Huang, Y. Tang*

3:30 Intermission.

3:45 ENVR 368. Synthesis of hierarchical porous carbon from dairy manure and eggshell for high-performance supercapacitor electrode materials. *X. Qi, F. Shen*

4:05 ENVR 369. The potential of pyrolytic sewage sludge as a novel bio-filler for styrene-butadiene rubber. *Y. Fan, G.D. Fowler, C. Norris, M. Zhao*

4:30 ENVR 370. Understanding the mechanism of soil water repellency at nanoscale. *J. Mao, B. Chen*

4:55 ENVR 371. Production of sustainable biofuels and advanced carbon materials from the hydrothermal carbonization of *Agave Americana*. *M. Volpe, L. Fiori, L. Gao, J.L. Goldfarb*

5:20 Concluding Remarks.

SECTION D

Boston Convention & Exhibition Center
Room 162B

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Cosponsored by AGRO⁺, ANYL and GEOC

N. Caprio, D. E. Helbling, M. Li, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 ENVR 372. Development of reactive materials for *in situ* treatment of poly and per-fluoroalkyl substances (PFAS). *K.D. Pennell, C. Liu, Y. Aly, N. Caprio, J. Fortner, J. Hatton, W. Arnold, M.F. Simcik*

2:05 ENVR 373. Removal of perfluoroalkyl substances (PFAS) from drinking water. *C. Hoffman, J. Johnson, D. Smith, Z. Xia*

2:30 ENVR 374. Substrate-mediated biotransformation and bio-defluorination of 6:2 FTOH by *Mycobacterium* and *Rhodococcus* species. *C. Wu, D. Deng, L. Clark, M. Li*

2:55 ENVR 375. Bioattenuation and adaptive shifts of microbial community in response to a fixed-volume pilot-scale release of an ethanol blend. *L. Zhu, Z. Yu, P.J. Alvarez, W. Rixey, Y. Wang*

3:20 Intermission.

3:40 ENVR 376. Innovations in groundwater remediation driven by extremely challenging, emerging contaminants: The prototypical example of 1,2,3-trichloropropane (TCP). *P.G. Tratnyek, A. Salter-Blanc, T. Torralba-Sanchez, Y. Lan, G. O'Brien Johnson, R. Johnson, E.J. Bylaska*

4:10 ENVR 377. Fungi-augmented biofilters for the removal of energetic compounds from stormwater runoff and groundwater. *R. Valenca, S. Kalra, A.G. Lothe, S. Mahendra, S.K. Mohanty*

4:35 ENVR 378. Groundwater water matrices significantly enhanced the remediation of PPCPs by zero-valent iron (Fe⁰) activated peroxydisulfate (PDS) system at neutral condition. *A. Li, Z. Wu, T. Wang, J. Fang*

5:00 ENVR 379. Harnessing woodchips to remove pharmaceuticals and anticorrosive substances. *Y. Tseng, W. Lai, H. Tung, R.G. Luthy, A.Y. Lin*

5:25 Concluding Remarks.

SECTION E

Boston Convention & Exhibition Center
Room 260

Green Chemistry & the Environment

Cosponsored by CEI

A. Balu, R. Luque, *Organizers*
S. O. Obare, N. Vaidya, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 ENVR 380. Synthesis of nanoparticles in supercritical fluids: A green approach to producing green technologies. *M.M. Lane, J.B. Zimmerman*

2:00 ENVR 381. Advances in separation technologies are reducing solvent use and are even able to provide for some solvent free processes, allowing for greener analyses that are performed with higher efficiency. *J.P. McCauley*

2:25 ENVR 382. Behaviors of biosorption and desorption of antimony by naturally occurring cyanobacteria *Microcystis*. *F. Sun, D. Shi, S. Liu*

2:50 ENVR 383. Reclamation of copper from solution as the copper carbonate pellet by a fluidized-bed homogeneous crystallization (FBHC) process. *I. Suciati, Y. Shih, Y. Huang*

3:15 ENVR 384. Current approaches to solvent replacement and future solutions of doing chemistry in aqueous medium: Discovery of environmentally friendly catalyst MCAT-53TM. *A. Mehta*

3:40 Intermission.

ENVR

3:50 ENVR 385. Switchable micellar solvent systems: Discussing the potential of homogenous catalysis in water guided by techno-economic assessment and life cycle assessment. *J. Wunderlich, R. Schomaecker*

4:15 ENVR 386. Exploration of tunable melanin-like polymers obtained through biocatalysis. *R.M. Bouldin, N. Buttafuoco*

4:40 ENVR 387. Plastic waste valorization to liquid fuel using Fe based zeolites. *U. Dwivedi*

5:05 ENVR 388. Potential of starch nanocrystals grafted by lactic acid (SNCs-g-LA) as a nucleating agent on the crystallization behaviour and phase transitions rate of PLA. *F. Sharafi*

SECTION F

*Boston Convention & Exhibition Center
Room 259B*

C. Ellen Gontor Environmental Graduate Student Award Symposium

Cosponsored by PROF

T. Anderson, *Organizer, Presiding*
1:30 Introductory Remarks.

1:40 ENVR 389. Impact of dissolved oxygen and pH on the extent and products of selenium(VI) removal by iron electrocoagulation. *Y. Bae, N.M. Crompton, J.G. Catalano, D. Giammar*

2:05 ENVR 390. Removing contaminants of emerging concern by UV/NO₃⁻/HCO₃⁻: The role of carbonate radical in water reuse and detoxification. *Y. Huang, M. Kong, Y. Liu, G. Xu, S. Coffin, D. Schlenk, S. Richardson, D. Dionysiou*

2:30 ENVR 391. Mineral- and base-catalyzed hydrolysis of organophosphate flame retardants: Potential major fate-controlling sink in soil and aquatic environments. *Y. Fang, E. Kim, T.J. Strathmann*

2:55 Intermission.

3:15 ENVR 392. Surface enhanced Raman spectroscopy (SERS) based optofluidics for whole cell analysis. *M. Willner, K. McMillan, D. Graham, M. Zagnoni, P.J. Vikesland*

3:40 ENVR 393. Digestion coupled with programmed thermal analysis for quantification of multiwall carbon nanotubes in plant tissues. *K.K. Das, L. Bancroft, X. Wang, J. Chow, B. Xing, Y. Yang*

4:05 Concluding Remarks.

SECTION G

*Boston Convention & Exhibition Center
Room 259A*

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Cosponsored by CEI and ENFL

X. Ling, *Organizers*
L. Arava, E. Ryan *Organizer, Presiding*

1:30 ENVR 394. Efficient heavy metal removal from industrial melting effluent using fixed-bed process based on porous hydrogel adsorbents. *J. Luo, G. Zhou, J.C. Crittenden, C. Liu*

1:50 ENVR 395. Heavy metal removal from aqueous systems using electrospun nanofibers. *S. Zhang, Q. Shi, X. Meng*

2:10 ENVR 396. Photoregenerable adsorbent composite nanomaterial for water treatment. *M. Suh, Y. Shen, C.K. Chan, J. Kim*

2:30 ENVR 397. Photoelectrochemical hydrogen peroxide generation using anthraquinone-modified carbon nitride. *Q. Zhu, J. Kim, S. Hu*

2:50 Intermission.

3:05 ENVR 398. Mechanistic studies of As (III) remediation over developed iron oxide-biochar nanocomposites: Sorption studies and characterization. *P. Singh, D. Mohan*

3:25 ENVR 399. New method for nitrate remediation from water. *L.T. Tran, J. Fulton*

3:45 ENVR 400. Rational design of antifouling polymeric nanocomposite for sustainable fluoride removal from NOM-rich water. *X. Zhang, B. Pan*

SECTION H

*Boston Convention & Exhibition Center
Room 258B*

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Redox

Cosponsored by GEOC

R. Doong, C. Huang, B. Pan, V. K. Sharma, *Organizers*
H. Kim, *Organizer, Presiding*

J. Liu, T. Wang, *Presiding*

1:30 Introductory Remarks.

1:35 ENVR 401. Immobilization of bimetallic zerovalent iron nanoparticles onto low dimensional supports for enhanced hydrodechlorination of trichloroethylene. *R. Saha, F. Tsou, R. Doong*

2:05 ENVR 402. Nickel oxide as anode and Ni-based electroless decorated copper as cathode for selective conversion of ammonia in aqueous solution. *Y. Shih, Y. Huang*

2:30 ENVR 403. Observation of methyl radicals in the reaction of aluminum supported zero-valent iron with water. *H.L. Lien, T. Lin, K. Yao*

2:55 ENVR 404. Fabrication and performance of magnetite-modified carbon black composite for the catalytic oxidation of PAEs in marine sediments. *C. Chen, C. Dong, S. Lyu, C. Hung*

3:20 Intermission.

3:40 ENVR 405. Microwave-assisted ferrate oxidation of cellulose for greener biomass pretreatment. *W. Den, S. Tulaphol*

4:05 ENVR 406. Impacts of sulfur distribution on the reactivity of nanoscale zerovalent iron to chlorinated solvents. *S. Ghoshal*

4:30 ENVR 407. Catalytic reduction of p-nitrophenol by magnetite in the presence of NaBH₄. *S. Bae, K. Hanna*

4:55 ENVR 408. Formation and transformation of the protein corona on catalytic and food-grade TiO₂ nanoparticles in the presence of pre-adsorbed dissolved organic matter. *K. Doudrick, J. Kim*

Synthesis & Chemistry of Agrochemicals

Kenneth A. Spencer Award: Symposium in Honor of Thomas M. Stevenson

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC[†] and ORGN

Rational Design of Multifunctional Renewable-Resourced Materials

New Applications

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 160C*

Advanced Oxidation for Water Treatment: Applications & Implications

Materials for AOPs: Transition Metals & Minerals

D. D. Dionysiou, G. Li Puma, D. Minakata, K. E. O'Shea, W. Song, *Organizers*

E. Asenath Smith, K. Doudrick, *Organizers, Presiding*

8:15 Introductory Remarks.

8:20 ENVR 409. Hydroxyl radical production from copper phosphide and water only for advanced oxidation process. *H. Kim, W. Choi*

8:45 ENVR 410. Explore the mechanism of heterogeneous catalytic ozonation in different water matrices. *W. Yang, N. Perinovic, T. Wu*

9:10 ENVR 411. Effective photodegradation of antibiotic cephalixin by ZnO nanowires under simulated sunlight. *J. He, Y. Zhang, G. Rhodes, J. Yeom, H. Li, W. Zhang*

9:35 ENVR 412. Mesoporous Ce-Ti-Zr ternary oxide millispheres for efficient catalytic ozonation in bubble column. *C. Shan, Y. Xu, M. Hua, M. Gu, Z. Yang, P. Wang, Z. Lu, W. Zhang, B. Pan*

10:00 Intermission.

10:15 ENVR 413. Internal polarization modulation in Bi₂MoO₆ for photocatalytic performance enhancement under visible light illumination. *Y. Chen, W. Yang, S. Gao, L. Zhu, C. Sun, Q. Li*

10:40 ENVR 414. Activation of persulfate by nickel oxide for oxidation of organic compounds: Effects of size and sintering temperature on mechanism conversion. *H. Kim, H. Jung, H. Lee, J. Choi, D. Lee, C. Lee*

11:05 ENVR 415. Advanced oxidation treatment using clay minerals to remove antibiotic resistance genes in wastewater. *P. Adamou, A. Neumann, D. Graham*

11:30 ENVR 416. Using clay minerals in an advanced oxidation process for water treatment: insights from kinetic studies. *K. Zakaria, Y. Ding, L. Chen, A. Neumann*

SECTION B

*Boston Convention & Exhibition Center
Room 161*

From Lab to Tap: Implications of Scaling Up Nano-Enabled Environmental Technologies

Cosponsored by ANYL

K. D. Hristovski, M. S. Wong, *Organizers*
A. C. Barrios, M. Lanzarini-Lopes, S. Pedersen, *Organizers, Presiding*

8:15 Introductory Remarks.

8:20 ENVR 417. Aqueous-processed, high-capacity electrodes for membrane capacitive deionization. *A. Jain, J. Kim, O. Oluwaseye, C. Weathers, D. Cana, K. Zuo, W.S. Walker, Q. Li, R. Verduzco*

8:45 ENVR 418. Removal of di-valent cations using ion-selective capacitive deionization. *J. Kim, A. Jain, K. Zuo, R. Verduzco, Q. Li*

9:10 ENVR 419. Resin-modified capacitive deionization for selective uptake and removal of sulfate. *K. Zuo, J. Kim, A. Jain, T. Wang, R. Verduzco, Q. Li*

9:35 ENVR 420. RC circuit modeling of desalination performance of multicell membrane capacitive deionization (MCDI) systems for desalination of brackish water. *O. Oluwaseye, W.S. Walker, A. Jain, J. Kim, Q. Li, R. Verduzco*

10:00 Intermission.

10:15 ENVR 421. Towards a mechanistic understanding of the selective adsorption of arsenic over competing phosphate by nano-enabled, transition metal cross-linked chitosan. *L.N. Pincus, A.W. Lounsbury, J.B. Zimmerman*

10:40 ENVR 422. Nano-enabled hydroxyapatite based media for removal of fluoride from water. *J. Markovski, D. Veljovic, K.D. Hristovski*

11:05 ENVR 423. Low removal of As (V) and Cr (VI) by POU devices until enabled with selective ion exchange media. *L. Dietrich, A.J. Atkinson, A. Venkatesan, P.K. Westerhoff*

11:30 ENVR 424. Comparison of graphene oxide impregnated with ionic or nano silver for bromide removal from surface waters. *A.C. Barrios, J. Kidd, O. Apul, P.K. Westerhoff, F. Perreault*

11:55 Concluding Remarks.

SECTION C

*Boston Convention & Exhibition Center
Room 162A*

Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications

Cosponsored by BIOL

S. Bae, J. Choe, Y. Choi, D. Werner, *Organizers, Presiding*
8:15 Introductory Remarks.

8:20 ENVR 425. Tailoring the surface of biowastes for their application as adsorbents of antibiotics. *A.E. Navarro, M.S. Islam, T. Demeke*

8:40 ENVR 426. Interaction mechanisms between biochar and microbes, and their pivotal roles on reducing environmental risks of soil contaminants. *X. Zhu, R. Schroll, Y. Wang, U. Dörfler, L. Zhu, B. Xing, Y. Zhang, B. Chen*

9:00 ENVR 427. Modelling pollutant transformations in biochar or activated carbon amended soils and sediments. *D. Werner*

9:20 ENVR 428. Activated carbon amendment for treatment of sediment contaminated with DDT and other hydrophobic organic pollutants concentrated 10-100x more than prior studies. *C.C. Pritchard, Y. Cho, R.G. Luthy*

9:40 ENVR 429. HOC mass transfer modeling with consideration of bioturbation and on-going sediment influx. *Y. Cho, D. Werner, Y. Choi, R.G. Luthy*

10:00 Intermission.

10:15 ENVR 430. Resiliency of biochar-amended woodchips-biofilter to remove nitrate from urban stormwater during climate change. *S.K. Mohanty, A. Berger, R. Valenca*

10:55 ENVR 431. Additive remediation effectiveness of activated carbon amendment on fungal degradation of fluorene and its heteroatomic analogs: Dibenzofuran, dibenzothiophene, and carbazole. *Z. Zhang, Y. Cho, J. Wolfand, Y. Choi, R.G. Luthy*

11:15 ENVR 432. QSARs to predict distribution coefficients of polar organic micropollutants on activated carbon and β-cyclodextrin polymers. *Y. Ling, M. Klemes, W.R. Dichtel, D.E. Helbling*

11:35 ENVR 433. Adsorption kinetic and equilibrium study for removal of mercuric chloride by CuCl₂-impregnated activated carbon sorbent. *J. Lee, V. Sriram*

11:55 Concluding Remarks.

SECTION D

*Boston Convention & Exhibition Center
Room 162B*

Catalysis for Environmental & Energy Applications

Cosponsored by CATL, CELL, ENFL and I&EC

A. Orlov, A. Savara, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 ENVR 434. Preparation of acidified $g\text{-C}_3\text{N}_4$ via thermal polymerization of hydrochloric acid-treated urea for photodegradation of microcystin-LR under visible light. *L. Shi, L. Shen, X. Xiang, X. Zheng, R. Cheng*

8:55 ENVR 435. Single-atom photocatalysts for oxyanion reduction in water treatment. *B.C. Hodges, D. Huang, C. Chu, E. Stavitski, J. Kim*

9:15 ENVR 436. Structured bimetallic catalysts for oxyanion reduction. *Y. Wang, X. Min*

9:35 ENVR 437. Oxidation reaction mechanism and kinetics of elemental mercury vapor over CuCl_2 . *J. Lee, V. Sriram, Z. Liu*

9:55 Intermission.

10:15 ENVR 438. Synthesis of Zn-ferrite recyclable magnetic nanomaterials for the degradation of pharmaceutical diclofenac in water. *A. Al Anazi*

10:35 ENVR 439. Broadband solar harvesting via plasmonic photocatalysts for environmental applications. *Q. Zhang, M. Chaker, D. Ma*

10:55 ENVR 440. Electrochemical anthraquinone process mediated by phase transfer catalysis. *S. Voskian, A.T. Murray, Y. Surendranath, T. Hatton*

11:15 ENVR 441. $\text{F-TiO}_2/g\text{-C}_3\text{N}_4$ photocatalysts: Effect of F-doping and hybridized with graphite-like C_3N_4 on the catalytic performance under visible light. *P. Chen, J. Yu, X. Jiang, S. Zhu*

11:35 ENVR 442. Ultralight, monolithic graphene and ceria aerogels for VOCs removal and disinfection. *W. Chen, K. Yeung*

11:55 Concluding Remarks.

SECTION E

Boston Convention & Exhibition Center
Room 260

Green Chemistry & the Environment

Cosponsored by CEI

A. Balu, R. Laque, *Organizers*

S. O. Obare, N. Vaidya, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 443. Public health risks from non-sustainable practices of rudimentary e-Waste recycling. *K. Hibbert, O.A. Ogunseitan*

8:30 ENVR 444. Electronic plastics waste management challenges and opportunities. *J.A. Glaser, E. Sahle-Demessie, T. Richardson*

8:55 ENVR 445. Cathode ray tubes (CRTs): Best practices and common challenges. *D.T. Gallo*

9:20 ENVR 446. Framework for assessing e-waste material flows from emerging technologies. *S. Lee*

9:40 Intermission.

9:50 ENVR 447. S/N migration during Shenmu coal pyrolysis and characteristics of semi-coke. *L. He, S. Li, Y. Ma*

10:10 ENVR 448. Oxidation of lignin-rich residue from deacetylation, mechanical refining, and enzymatic hydrolysis of lignocellulose. *J. Kruger, D. Brandner, C. Amador, A. Mittal, G. Beckham*

10:30 ENVR 449. Sustainable biomass-derived nanocellulose as anti-biofouling layer for membranes. *P. Hadi, M. Yang, H. Walker, B.S. Hsiao*

10:50 ENVR 450. Yolk-shell nanoarchitecture of rutile-expanded core and its heterojunction with black TiO_2 using one-step, fast and ecofriendly PLAL synthesis. *A. Balati, A. Bazilio, K. Nash, H. Shipley*

11:10 ENVR 451. Improved nitrogen management of urea fertilizers via novel molecular crystal design. *K. Honer, L. Casali, F. Grepioni, D. Braga, S.L. Ciurli, J. Baltrusaitis*

11:30 ENVR 452. Rapid removal of pharmaceuticals, phosphates and metal from wastewater using fast pyrolysis biochar from waste Douglas fir. *A.G. Karunanayake, R. Anderson*

11:50 Discussion.

SECTION F

Boston Convention & Exhibition Center
Room 259B

Electrical/Electrochemical Technologies for Environmental Applications

Cosponsored by ENFL

B. P. Chaplin, D. Wang, X. Xie, Y. Yang, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 453. *In situ/operando* soft x-ray spectroscopy of energy, environment and chemical sciences. *J. Guo*

8:45 ENVR 454. Short-circuited closed-cycle operation of flow-electrode CDI: Energy-saving applications for brackish water softening. *J. Ma, C. He, C. Zhang, D. Waite*

9:10 ENVR 455. Electrocatalytic oxidation degradation of ammonia nitrogen wastewater. *Z. Yang, G. Yan, S. Guo*

9:35 ENVR 456. The mechanism of hydroxyl radical generation and degradation of refractory organics in hierarchical-porous-carbon-monolith cathode. *Y. Hongtao, C. Wang, Y. Guo, S. Wu*

10:00 Intermission.

10:15 ENVR 457. Earth abundant elements based dimensionally stable anodes for generation of reactive chlorine species and water treatment. *K. Cho, S. Hong, E. Rahman, S. Hong*

10:40 ENVR 458. Improving adsorption rate and capacity of capacitive deionization with polyelectrolyte coated bitortuous electrodes. *A.P. Bhat, E. Reale, M. del Cerro, K. Smith, R.D. Cusick*

11:05 ENVR 459. Efficient photoelectrocatalytic oxidation of dimethyl phthalate on novel TiO_2/Ti photoelectrode with nearly 100% exposed (001) facets. *S. Han, Q. Niu, Y. Zhang, G. Zhao*

11:30 ENVR 460. Water treatment technologies based on the electrokinetic effect of pollutants. *C. Hu, H. Liu, J. Qu*

11:55 Concluding Remarks.

SECTION G

Boston Convention & Exhibition Center
Room 259A

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Cosponsored by CEI and ENFL

L. Arava, *Organizer*

X. Ling, E. Ryan, *Organizers, Presiding*

9:00 ENVR 461. Electrospun silica nanofiber mats functionalized with ceria nanoparticles for water decontamination. *I. Zucker, N. Dizge, C. Fausey, E. Shaulsky, M. Sun, M. Elimelech*

9:20 ENVR 462. Mining from waste: Chemomechanically-modulated automated and selective separation of metal ions. *M. Hua, Y. Du, M. Sun, X. He*

9:40 ENVR 463. Sequestering PFOA at environmentally relevant concentrations by a β -cyclodextrin polymer network. *L. Xiao, Y. Ling, A. Alsbaiie, C. Li, D.E. Helbling, W.R. Dichtel*

10:00 ENVR 464. Novel magnetic MnOx loaded rice husk biochar for Pb(II) and Cd(II) adsorption in aqueous solution. *C. Sun, Q. Huang, T. Chen, J. Yan*

10:20 Intermission.

10:35 ENVR 465. Potential for treatment of a chromium waste stream with zerovalent iron. *A.A. Maria, J. Williams, H.P. Palmer Emerson, Y. Katsenovich, D. Boglaenko*

10:55 ENVR 466. Core-shell porphyrin-based magnetic nanocomposites for efficient adsorption and removal of lead(II) in aqueous solution. *J. Yu, S. Zhu*

11:15 ENVR 467. Selective separation and preconcentration of Th(IV) using functionalized, hierarchically-ordered porous silica monoliths. *Y. Hu, F.G. Fontaine, F. Kleitz, D. Larivière*

11:35 ENVR 468. Investigating the relationship between adsorbed nzvi and reactivity: A study in nitrate reduction. *J. Fulton, H. Fraser*

SECTION H

Boston Convention & Exhibition Center
Room 258B

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Catalysis/Photocatalysis

Cosponsored by GEOC

R. Doong, C. Huang, H. Kim, B. Pan, V. K. Sharma, *Organizers*

C. Hou, B. Pan, S. Yen, *Presiding*

8:15 Introductory Remarks.

8:20 ENVR 469. Outdoor photolysis and dissolution of insensitive munition formulation IMX-101 and IMX-104: Transformation pathway and mechanism study. *C. Qin, L.A. Hyatt, K. Dontsova, L. Abrell, D. Troya, E. Hunt, S. Taylor*

8:45 ENVR 470. Photodegradation of tris (1,3-dichloropropyl) phosphate with TiO_2 nanoparticles under UV irradiation and the effect of electrolytes. *M. Chang, Y. Shih*

9:10 ENVR 471. Photocatalytic degradation of sulfamethoxazole by TiO_2 in the presence of halide salts. *Y. Lin, Y. Shih*

9:35 ENVR 472. Kinetic investigation of laccase catalysed transformation of phenolic contaminants: The influence of humic acid-metal binding process. *J. Lu*

10:00 Intermission.

10:20 ENVR 473. Influence of vacancy sites and Mn(III) atoms on MnO , photoreduction. *S. Benkaddour, J. Pena*

10:45 ENVR 474. Fabrication of reduced graphene oxide-modified electrodes toward electroanalytical determination of sulfamethoxazole in aqueous environments. *Y. Hong, T. Lee, Y. Chen, C. Chen*

11:10 ENVR 475. Adsorption and catalytic reaction of chlorpheniramine and its nitrosamine formation potential on the nano-sized graphene oxide-iron oxide composite. *W. Chen, J. Huang*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Synthesis & Chemistry of Agrochemicals

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC⁺ and ORGN

Visualizing Heavy Element Contamination in the Environment at the Nanoscale

Sponsored by GEOC, Cosponsored by ENVR and NUCL

AGRO-SETAC Joint Symposium: Role of Monitoring Data in Advancing Regulatory Risk Assessment

Sponsored by AGRO, Cosponsored by ENVR

Atmospheric Fate & Transport of Volatilized Agricultural Emissions

Sponsored by AGRO, Cosponsored by ANYL and ENVR

WEDNESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 160C

Advanced Oxidation for Water Treatment: Applications & Implications

Materials for AOPs: Transition Metals & Minerals

K. Doudrick, G. Li Puma, D. Minakata, K. E. O'Shea, W. Song, *Organizers*

E. Asenath Smith, D. D. Dionysiou, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 ENVR 476. Physical and oxidative antimicrobial properties of chitosan-graphene oxide composites for water treatment. *B. Petery, C. Thomas, E. Alberts, V.F. Medina, C.S. Griggs*

2:00 ENVR 477. Earth-abundant nanomaterials for photocatalytic hydrogen evolution and bacterial inactivation under visible light irradiation. *W. Wang, G. Li, T. An*

2:25 ENVR 478. Heterogeneous Fenton oxidation of Orange II using iron nanoparticles supported on functionalized fique fiber. *C.A. Sierra, K. Bastidas, H. Zea*

2:50 ENVR 479. Algae decorated TiO_2/Ag hybrid nanofiber membrane with enhanced photocatalytic activity for pollutants removal. *L. Wang, C. Zhang, G. Pan*

3:15 Intermission.

3:30 ENVR 480. Nitrogen- and boron- codoped TiO_2 catalyst with improved photocatalytic activity for wastewater treatment/reuse applications. *W. Abdelraheem, M. Nadagouda, D.D. Dionysiou*

3:55 ENVR 481. Removal of 1,4-dioxane from landfill leachate by a rotating advanced oxidation contactor equipped with activated carbon/ TiO_2 composite sheets. *Y. Nomura, S. Fukahori, T. Fujiwara*

4:20 ENVR 482. Selective photo-degradation of small molecule contaminants with surface-modified TiO_2 nanoparticles. *E. Ambrogio, E. Asenath-Smith, J. Roman, E. Kim, D.M. Crapek*

4:45 ENVR 483. Development of immobilized $\text{TiO}_2\text{-SiO}_2$ photocatalyst films to enhance UV-assisted degradation of taste and odor compounds in water. *S.B. Yaparante, C.P. Tripp, A. Amirbahman*

5:10 ENVR 484. Robust magnetic photocatalyst for removal of organic pollutants from drinking water. *S. Sultana, A. Amirbahman, C.P. Tripp*

SECTION B

Boston Convention & Exhibition Center
Room 161

From Lab to Tap: Implications of Scaling Up Nano-Enabled Environmental Technologies

Cosponsored by ANYL

K. D. Hristovski, M. S. Wong, *Organizers*

A. C. Barrios, M. Lanzarini-Lopes, S. Pedersen, *Organizers, Presiding*

1:30 ENVR 485. Leveraging chemical actinometry and optical radiometry to reduce uncertainty in photochemical research. *E. Asenath Smith, E. Ambrogio, L. Moores, S. Newman, J. Brame*

- 1:55 ENVR 486.** Nano enabling optical fibers increases light scattering in photo-assisted water treatment. *M. Lanzarini-Lopes, S. Garcia-Segura, K.D. Hristovski, P.K. Westerhoff*
- 2:20 ENVR 487.** Improving capabilities of atmospheric water capture systems: Photothermal nanomaterials enhance kinetics of water vapor desorption from desiccants. *A. Mulchandani, P.K. Westerhoff*
- 2:45 ENVR 488.** Nanoenabling activated carbon based point-of-use water filtration devices for added functionality. *A.J. Atkinson, H. Lee, J. Markovski, F.C. Brown, D. Nys, H. Ashani, S. Sinha, P.K. Westerhoff*
- 3:10** Intermission.
- 3:20 ENVR 489.** Nanoparticle spray coating with aerosol impact-driven assembly is a versatile and scalable technique for increasing water treatment membrane functionality. *O. Alrehailli, A.J. Atkinson, Y. Bi, P. Firth, Z. Holman, P.K. Westerhoff*
- 3:45 ENVR 490.** Rapid processing of bottlebrush coatings through UV-induced crosslinking. *H. Mei, A. Mah, G. Stein, R. Verduzco*
- 4:10 ENVR 491.** Nano-augmented microwave irradiation of soils containing heavy and long-chain petroleum-hydrocarbons. *E. Pruitt, O. Apul, R. Kamath, K. Kong, P. Dahlen, P.K. Westerhoff*
- 4:35 ENVR 492.** Nano-enabled superomniphobic membranes for membrane distillation: Recent advances and current challenges. *S. Pedersen, Q. Li*
- 5:00 ENVR 493.** Magnetic nanoparticle recovery device (MagNRD) enables large scale application of iron oxide nanoparticles for water treatment. *A.J. Atkinson, C. Powell, Y. Ma, M.S. Wong, P.K. Westerhoff*
- 5:25** Concluding Remarks.

SECTION C

Boston Convention & Exhibition Center
Room 162A

Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications

- Cosponsored by BIOL
- S. Bae, J. Choe, Y. Choi, D. Werner, *Organizers, Presiding*
- 1:30** Introductory Remarks.
- 1:35 ENVR 494.** Adsorption of cationic dye on novel magnetized polypeptidylated protein. *M. Essandoh, R.A. Garcia*
- 1:55 ENVR 495.** Preparation of novel *shewanella*-graphene core-shell composite material for nitrobenzene degradation. *P. Tingting, B. Chen*
- 2:15 ENVR 496.** Influences of isolated fractions of natural organic matter on adsorption behaviors of Cu(II) onto titanate nanotubes. *T. Wang, T. Zheng, Y. Xi*
- 2:35 ENVR 497.** Adsorptive removal of aqueous tetracycline by Zr-based metal-organic frameworks. *J. Xia, G. Yu*
- 2:55 ENVR 498.** Enhancement of heavy metal sorption to *Chlorella vulgaris* by modification of growth medium and chemical pretreatment. *G. Joo, K. Kim, Y. Choi*
- 3:15** Intermission.
- 3:30 ENVR 499.** Engineered biochar for contaminant adsorption and reduction. *D. Tsang, D. Cho*
- 4:10 ENVR 500.** Removal and enrichment of ammonium ion from aqueous solution using activated carbon modified with anionic surfactant. *W. Lee, S. Yoon, J. Choe, Y. Choi*
- 4:30 ENVR 501.** Mechanisms of Ra²⁺ removal on celestite impregnated silica. *H. Hamid, A. Gusa, J. Flora, R.D. Vidic*
- 4:50 ENVR 502.** "Iron Man" become "Dustman" – artificial and natural silicified nanoshells for heavy metal adsorption. *J. Ma, K. Pan*
- 5:10** Concluding Remarks.

SECTION D

Boston Convention & Exhibition Center
Room 162B

Environmental Obesogens: Exposure Pathways, Mechanism of Action & Trends

- Cosponsored by AGRO
- J. Legler, G. Malavannan, *Organizers*
B. G. Loganathan, K. Sajwan, *Organizers, Presiding*
M. Govindan, J. Legler, *Presiding*
- 1:30** Introductory Remarks.
- 1:40 ENVR 503.** Environmental obesogens: Background, challenges and research needs. *J. Legler*
- 2:20 ENVR 504.** Persistent organohalogenated contaminants in obese adolescents: Levels before and after weight loss. *M. Govindan, Y. Kim, D. Ann, V. Stijn, J. Philippe, E. Dirinck, V. Luc, A. Covaci*

- 2:40 ENVR 505.** Bisphenol-A in the environment: Contamination levels in water, indoor dust and implications for human exposure. *B. Cassidy, S. Loganathan, K. Kannan, B.G. Loganathan*
- 3:00 ENVR 506.** Arsenic impairs endocrine and lipolytic adipose tissue metabolism and it is modulated by high-fat saturated diet. *A. Diaz-Villaseñor, D. Calderon-Du pont, Z.A. Ceja-Galicia, A. Lopez-Daniel, J.K. Tello-Casillas, L.M. Chiu, A.V. Contreras, S. Moran-Ramos*
- 3:20** Intermission.
- 3:35 ENVR 507.** Prenatal obesogen exposure leads to a transgenerational thrifty phenotype in mice. *B. Blumberg*
- 4:15 ENVR 508.** Global trends of POPs and obesity: An introspective inquiry. *B.G. Loganathan*
- 4:35 ENVR 509.** Environmental obesogens: Contamination levels in environmental and biological samples from Savannah, Georgia, USA. *K. Sajwan, R. Choi, J. Richardson*
- 4:55 ENVR 510.** Obesogens: Looking back to look forward. *J. Heindel*
- 5:15** Concluding Remarks.

SECTION E

Boston Convention & Exhibition Center
Room 260

Wastewater-Based Epidemiology: Opportunities & Challenges

- Cosponsored by ANYL
- D. A. Burgard, B. G. Loganathan, B. Subedi, *Organizers, Presiding*
- 1:30** Introductory Remarks.
- 1:40 ENVR 511.** Opportunities and challenges associated with sewage epidemiology. *B. Subedi*
- 2:10 ENVR 512.** Sewage analysis CORe groupe Europe (SCORE) – Overview of a pan-European network coordinating illicit drug measurements in wastewater. *F. Been, F.Y. Lai, A. Covaci, A.L. van Nuijs*
- 2:35 ENVR 513.** Water-based epidemiology: Trends, differences and challenges based on studies in three countries. *V. Yargeau*
- 3:00 ENVR 514.** Wastewater-based epidemiology of tobacco, prescription opioids and drugs of abuse in New York City. *N. Centazzo, B. Frederick, A. Jacox, S. Cheng, M. Concheiro-Guisan*
- 3:25** Intermission.
- 3:45 ENVR 515.** Wastewater as a tool to understand legalized retail sales effects on cannabis consumption in WA. *D.A. Burgard, J. Williams, D. Westerman, R. Carpenter, A. LaRock, R. Rushing, J.F. Sadetsky, J. Clarke, H. Fryhle, M.C. Pellman, C. Banta-Green*
- 4:10 ENVR 516.** Wastewater-based epidemiological tracking of narcotic use at a southwestern U.S. university. *A. Gushgari, E.M. Driver, J.C. Steele, R. Halden*
- 4:35 ENVR 517.** Drug cocktails: What's in your wastewater mix? *S. Pagsuyoin, J. Luo, D. Bello*
- 5:00 ENVR 518.** Are illicit drugs consumed more during celebrations? *K. Foppe, A.J. Skees, D.R. Hammond-Weinberger, B. Subedi*

SECTION F

Boston Convention & Exhibition Center
Room 259B

Electrical/Electrochemical Technologies for Environmental Applications

- Cosponsored by ENFL
- B. P. Chaplin, X. Xie, *Organizers*
D. Wang, Y. Yang, *Organizers, Presiding*
- 1:30** Introductory Remarks.
- 1:35 ENVR 519.** Electrochemistry at the membrane/water interface. *D. Jassby*
- 2:15 ENVR 520.** Nitrogen and phosphorus recovery and separation from agricultural wastewater effluents: The role of electrically conductive membranes. *A. Ronen, K.M. Kekre*
- 2:40 ENVR 521.** Biofouling effects on boron-doped diamond anodes in water treatment. *S. Segura, D. Rice, F. Perreault*
- 3:05 ENVR 522.** Degradation of perfluorooctanesulfonate by Ti₂O₃ reactive electrochemical membrane. *H. Shi, R.D. Pierce, J. Lu, Q. Huang*
- 3:30** Intermission.
- 3:45 ENVR 523.** Capacitive membrane stripping for ammonia recovery (CapAmm) from dilute wastewaters. *C. Zhang, J. Ma, D. Waite*
- 4:10 ENVR 524.** Inactivation of *E. coli* by direct-in-liquid electrical discharge plasma: Effects of reactor electrode design and high voltage electrode material. *X. Su, S.M. Thagard, S. Rogers, T. Holsen*

- 4:35 ENVR 525.** Air cathode iron-electrocoagulation for removing wastewater-derived contaminants of concern. *S. Bandaru, J.M. Barazesh, C. Prasse, A.J. Gadgil*
- 5:00 ENVR 526.** Mechanism investigation of the enhanced photocatalytic oxidation of nonyl phenol on hydrophobic TiO₂ nanotubes. *H. Shi, X. Huang, G. Zhao*
- 5:25** Concluding Remarks.

SECTION G

Boston Convention & Exhibition Center
Room 259A

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

- Cosponsored by CEI and ENFL
- L. Arava, E. Ryan, *Organizers*
X. Ling, *Organizer, Presiding*
H. V. Kumar, *Presiding*
- 1:30 ENVR 527.** Interfacial liquid ordering dictates the behavior of energy and momentum transport at solid-liquid interfaces. *B. Ramos-Alvarado*
- 1:55 ENVR 528.** Functionalized carbon nanotubes for chemical sensor applications. *Me. He, T.M. Swager*
- 2:20 ENVR 529.** Synthesis and STM single molecule conductivity measurements of heterobimetallic lantern complexes. *S.A. Beach, L.A. Zuckerman, I.J. Planje, R.J. Nichols, A.L. Rheingold, L.H. Doerfer*
- 2:40 ENVR 530.** Multicolor photochromic color switching of redox dyes by semiconductor nanocrystals for use as rewritable media. *A. Smith, A. Gorski, M. Zhang, P. Gitman, Z. Hao, H. Jin, C. Park, S. Zeng, L. Sun*
- 3:00 ENVR 531.** Emulsion systems to environment friendly applications. *H.V. Kumar, E. Brown, D.H. Adamson*
- 3:20** Intermission.
- 3:35 ENVR 532.** Molecularly engineered multifunctional carbon nanotube fibers using highly controlled electrical fusion process. *J. Hao, H. Jung, S. Liu, C. Livermore, Y. Jung*
- 4:00 ENVR 533.** Scalable preparation of nanoscale, bimetallic materials with precisely controlled surface composition and tunable surface morphology. *P.J. Cappillino, S. Gurusu, D.B. Robinson*
- 4:20 ENVR 534.** Bottom-up synthesis of transition metal dichalcogenides and nanostructures. *X. Ling, T. Li, Y. Guo, Y. Lin, J. Kong*
- 4:40 ENVR 535.** Controlled TiO₂ growth on thin film composite membranes by atomic layer deposition: Mechanisms and potential applications. *X. Zhou, Y. Zhao, S. Kim, M. Elimelech, S. Hu, J. Kim*
- 5:00 ENVR 536.** Fluorescent techniques for nanoscale temperature determination in solar photothermal materials. *S. Loeb, H. Wei, J. Kim*

SECTION H

Boston Convention & Exhibition Center
Room 258B

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

General

- Cosponsored by GEOC
- R. Doong, C. Huang, H. Kim, B. Pan, V. K. Sharma, *Organizers*
W. Hou, H. L. Lien, D. Ruey-An, *Presiding*
- 1:30** Introductory Remarks.
- 1:35 ENVR 537.** Spherical aberration corrected analytical transmission electron microscopy (Cs-AEM) for mapping pollutant reactions at the solid-water interface. *L. Ling, W. Zhang*
- 2:05 ENVR 538.** Reaction of carbon black by catalyst zinc oxide doped copper under low temperature. *C. Sun, M. Hsieh, T. Li, C. Hsieh*
- 2:30 ENVR 539.** Formation and aggregation of lead phosphate nanoparticles: Implication for lead immobilization in water distribution systems. *J. Zhao, D. Giammar, J.D. Pasteris, C. Dai, Y. Hu*
- 2:55 ENVR 540.** Reduced zinc leaching from scrap tire during pavement application. *J. Wang, X. Liu, A. Gheni, M. ElGawady*
- 3:20** Intermission.
- 3:40 ENVR 541.** Chemical degradation of polyacrylamide during hydraulic fracturing. *B. Xiong, M. Kumar, A.L. Zydney*
- 4:05 ENVR 542.** Probe the reactivity of pyrogenic carbonaceous matter in mediating environmental redox reactions using a polymer synthesis approach. *Z. Li, W. Xu*
- 4:30 ENVR 543.** Influence of copper phosphate and copper oxide nanoparticles on growth and disease resistance of watermelon. *J. Borgatta, C. Ma, N. Hudson Smith, C.L. Haynes, J.C. White, R.J. Hamers*

4:55 ENVR 544. Synchrotron evidence for elucidating mechanisms of CO₂ mineralization and utilization at mineral-water interfaces. *S. Pan, B. Lai, Y. Ren, K. Shah, T. Chen, P. Chiang*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Microbial Chemical Processes & Advanced Nanotechnology for Contaminated Site Remediation

Sponsored by GEOC, Cosponsored by ENVR

Surfactant & Colloid Science as Applied to Agrochemical Formulations

Sponsored by AGRO, Cosponsored by AGFD, ENVR[†] and ORGN

New Analytical Technologies for Pesticide Analysis

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

Pesticides & Chemophobia in the News: What You Need to Know as a Scientist & Consumer

Sponsored by AGRO, Cosponsored by AGFD, CHAL, CHAS and ENVR

Atmospheric Fate & Transport of Volatilized Agricultural Emissions

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Environmental Study Design: Current & Emerging Guidelines

Sponsored by AGRO, Cosponsored by ENVR

Non-Extractable Residue (NER) Bio-Accessibility & Potential Risks

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Pesticide Spray Drift: Application, Evaluation & Mitigation

Sponsored by AGRO, Cosponsored by ANYL and ENVR

Role of Monitoring Data in Advancing Regulatory Risk Assessment

Sponsored by AGRO, Cosponsored by ENVR

Surfactant & Colloid Science as Applied to Agrochemical Formulations

Sponsored by AGRO, Cosponsored by AGFD, ENVR[†] and ORGN

Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC[†] and ORGN

Uses of Mass Spectrometry in Agricultural Research & Development: New Trends & Best Practices

Sponsored by AGRO, Cosponsored by AGFD, ANYL and ENVR

WEDNESDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

L. Arava, X. Ling, E. Ryan, *Organizers*

6:00 – 8:00

ENVR 545. Hydrothermal carbon superstructures enriched with carboxyl groups for highly efficient uranium removal. *B. Han*

ENVR 546. Rational controlling shape and phase formation: synthesis of phase separated Bi₂WO₆-Fe₂WO₆ heterojunctions and BiFeWO₆ nanooctahedra and visible light photocatalytic performances. *Y. Wang, S. Zhang, Q. Zhong*

ENVR 547. Highly efficient all organic supramolecular nanotemplates for visible light driven hydrogen evolution from water. *H. Lee, J. Kim, S.Y. Park*

ENVR 548. Heavy metal ions adsorption by nitrogen-doped mesoporous carbons synthesized using a copolymer-templating method. *G. Ye, Y. Song*

ENVR 549. Fluorofluorescent solar concentrator: A solution-based approach towards building-integrated photovoltaics. *K. Yoshinaga, O.B. Achorn, G.D. Gutierrez, T.M. Swager*

ENVR 550. *In situ* combined dual-layer PyCC/PES membrane for electrically-enhanced fouling resistance in high concentration microalgae harvesting process. *Z. Yu, X. Zhou, Y. Zhang, H. Chu*

ENVR 551. Multifunctional bimetallic nanomaterials prepared by atomic layer electroless deposition. *S. Gurung, P.J. Cappillino, D.B. Robinson*

ENVR 552. Improving the photocatalytic functionality and the stability of CdS/MOF hybrid composites: Immobilization of CdS nanoparticles by MOF structures. *T.W. Kim, M. Sohail, H. Kim*

ENVR 553. Novel three-dimensional printing system for flexible silica aerogel synthesis. *J. Lopez Navas, J. Luo, K. Yeung*

ENVR 554. Dioctyl sulfosuccinate modified superhydrophobic/superoleophilic chitosan sponge for the selective removal of oily pollutants from water. *C. Ma, C. Shen, Y. Liu, F. Li*

ENVR 555. Synthesis, characterization and application of a new silica composite nano-adsorbent with NiFe magnetic nanoparticles embedded structure. *Y. Liu, J. Li, C. Zhong*

ENVR 556. Composition-activity relationship of PtCuCo nanocatalysts for application in direct ethanol fuel cells. *Z. Wu, T. Wong, K. Park, H. Cronk, J. Luo, C. Zhong*

ENVR 557. Study on the delivery of reactive nanoparticles by surfactant-stabilized foam for sites remediation. *Q. Li, A. Patel, V. Prigobbe*

ENVR 558. Multi-scale computational frameworks for hierarchical porous material design. *Q. Ha, A. Roshandelpoor, P. Vakili, J.L. Goldfarb, E. Ryan*

ENVR 559. Characterization of fixed bed adsorption using computational modeling. *K. Dupre, A. Vyas, J.L. Goldfarb, E. Ryan*

ENVR 560. Manufacture of PVDF film membrane using soft lithography: Effect of spin coating. *A. Rajjanapinun, S. Pagsuyovin, H. Sun, E. Ada*

ENVR 561. Fabrication of MOFs/PVDF composite spheres for pharmaceutical waste treatment. *C. Ratanawatwanate, C. Imhan, W. Sajomsang*

ENVR 562. Facile synthesis of flexible and superhydrophobic silica aerogels by TEMS, DMDMS and PDMS. *J. Luo, Z. Liu, K. Yeung*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Advanced Oxidation for Water Treatment: Applications & Implications

E. Asenath Smith, D. D. Dionysiou, K. Doudrick, G. Li Puma, D. Minakata, K. E. O'Shea, W. Song, *Organizers*

6:00 – 8:00

ENVR 563. Heterogeneous degradation of atrazine with ozone catalyzed by ordered mesoporous Fe₃O₄. *S. Zhu, B. Dong*

ENVR 564. Application of calcium peroxide for efficient removal of triamcinolone acetonide from aqueous solutions. *A. Zhang, Y. Liu*

ENVR 565. Treatment of effluents containing organic pollutants using Ce or Nd doped TiO₂ photocatalysts. *R.F. Moreira, G.B. Vieira*

ENVR 566. Low pressure UV/H₂O₂ treatment for the degradation of pharmaceutical compounds acetaminophen, atenolol, bezafibrate, diclofenac and ibuprofen. *M.P. Parizi, C.P. Katsumata, A.S. Teixeira, A.L. Acosta*

ENVR 567. Visible light-induced activation of peroxymonosulfate on TiO₂. *C. Kim, Y. Jo, J. Lee, W. Choi*

ENVR 568. Photodegradation of estrogenic steroids in the presence of humic acid and carbonate ions in aqueous solutions. *F. Albalawi, Y. Zuo*

ENVR 569. Epitaxial branched WO₃/TiO₂ nanostructures for highly-stable and efficient photoelectrocatalytic wastewater treatment. *Q. Zeng, C. Hu*

ENVR 570. Accelerated photocatalytic degradation of organic pollutant over metal-organic framework MIL-53(Fe) under visible LED light mediated by persulfate. *Y. Gao*

ENVR 571. Efficient degradation of organic pollutants by heterogeneous dual-reaction-center Fenton-like process. *L. Lyu, C. Hu*

ENVR 572. Treatment of the emerging pollutant 17 α -ethynylestradiol using sodium persulfate activated by an innovative method. *C. Rackov, S.O. Silva, D. Silva, L. Aguiar, M.G. Vianna, O. Chivavone-Filho, C.A. Oller do Nascimento*

ENVR 573. Mechanistic study of photochemical and advanced oxidation processes for degradation of pharmaceuticals in water. *M.J. Chisholm, B.W. Cole, R. Fort*

ENVR 574. Removal of atrazine and its by-products from agricultural surface water using advanced oxidation processes. *S. Komtchou Kamdem, A. Dirany, P. Drogui, D. Robert*

ENVR 575. Heterogeneous activation of peroxymonosulfate using mesoporous Fe/NC for the degradation of organic pollutants. *T. Zeng, H. Zhang, S. Song*

ENVR 576. Synthesis of a photoactive cellulose-based nanocomposite for enhanced water filtration applications. *K.P. Lanasky, S.J. Baker, R.K. McDonough, J.J. Keleher*

ENVR 577. Dual frequency ultrasonic reactor configuration for OH radical production. *Z. Eren, K.E. O'Shea*

ENVR 578. Synergistic effect of common oxidants on solar light driven activity of B-N-codoped TiO₂ for the degradation and mineralization of aspartame. *J. Duarte, W. Abdelraheem, C.L. Zanta, D.D. Dionysiou*

ENVR 579. Degradation of glyphosate by ferrate, chlorine and monochloramine: Effects of hardness, bromide, and natural organic matter. *J. Liu, V.K. Sharma*

ENVR 580. Impact of dual-wavelength synergy on iopamidol degradation by UV-LED irradiation and UV-LED/chlorine treatment. *Z. Gao, Y. Lin, B. Xu*

ENVR 581. An efficient catalytic degradation of methylene blue in a percarbonate system catalyzed by graphene supported iron. *M. Ali, A. Ahmad, N. Feroz*

ENVR 582. Photocatalytic degradation kinetics and mechanism of perfluorooctanoic acid over Pb-BiFeO₃/rGO catalyst. *Y. Li, E. Shang, X. Wang, G. Zhang*

ENVR 583. Oxidation of microcystins by permanganate: pH and temperature-dependent kinetics, effect of DOM characteristics, and oxidation mechanism revisited. *M. Kim, H. Lee, K. Lee, J. Seo, C. Lee*

ENVR 584. Photo-assisted electrochemical oxidation of imidacloprid in the presence of chloride ions. *I. Chu, Y. Shih, Y. Huang*

ENVR 585. Critical role of oxygen for the rapid degradation of organic contaminants in permanganate/bisulfite process. *B. Sun, X. Guan*

ENVR 586. Microbial and enzymatic degradation of emerging environmental contaminants in water. *T. Chang, Y. Peng, C. Hsu, S. Wu, T. Chou, Y. Shih*

ENVR 587. Photochemical transformation of methamphetamine in dissolved organic matter solution under simulated sunlight. *J. Lv, P. Hu, C. Guo, Y. Zhang, J. Xu*

ENVR 588. Piezoelectric effect of BaTiO₃@graphene and application in breaking complex of Cu-EDTA and recycle of Cu²⁺. *G. Gao*

ENVR 589. Effectively enhanced degradation of chloroaromatic compounds in water by electro/carbon nanotubes/peroxydisulfate process. *W. Ren, H. Zhang*

ENVR 590. *Microcystis aeruginosa*-laden water treatment using enhanced coagulation by calcium peroxide/Fe(II): Simultaneously enhanced algae removal, controlled AOM release and improved water quality. *H. Xin, Y. Tang*

ENVR 591. Facile synthesis of novel photocatalyst derived from titanium dioxide and egg-based biomass with superior photocatalytic oxidation of methylene blue dye in aqueous solutions. *A.A. Alhwaige, K.M. Emithg, A.B. Almahjob*

ENVR 592. Synthesis and evaluation of the carboxymethyl cellulose mediated CaO₂ nanoparticles for stabilized oxygen release in bioremediation of diesel. *C. Yeh, T. Chou, Y. Shih*

ENVR 593. Performance of an integrated electro-oxidation and electrocoagulation process in removing ammonia from high-strength organic wastewater. *M.R. Choudhury, N. Anwar, R. Rajagopal, S. Rahaman*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Advances in Carbon Nanomaterial Design & Applications for Environmental Sustainability

L. M. Gilbertson, F. Perreault, *Organizers*

6:00 – 8:00

ENVR 594. Antibacterial effect of multi walled-carbon nanotubes-based nanohybrids. *S. Baek, S. Joo, C. Su*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Advances in Sensors & Biosensors for Environmental Monitoring

J. Berberich, T. Li, E. Sahle-Demessie, *Organizers*

6:00 – 8:00

ENVR 595. Detection of organochlorine pesticides in contaminated marine environments via cyclodextrin-promoted fluorescence modulation. *D.J. Disenza, M. Levine*

ENVR 596. Functionalized pillar arenes for removal of small molecule toxicants and the development of a novel array based detection system. *P.I. Fernando, T. Maka, B.L. DeBoef, M. Levine, A. Levenson, P. Cesana, K. DaRosa, A. Mendieta*

ENVR 597. Highly sensitive and selective sensing of estrogens in real sample using surface enhanced Raman spectroscopy. *S. Liu, G. Zhao*

ENVR 598. Printed carbon nanotube sensor technology for detection, collection and reporting of water contaminants. *L. Mimin, D.L. Henderson, C. Thomas, C.T. Hubley, J.S. Furey, A. Netchev, A.J. Bednar, J.A. Brame*

ENVR 599. Eugenol derived azo dyes synthesis, characterization, and investigation of their photophysical properties as chemical sensors. *A. Karim, Y.M. Hijji, H.D. Tabba, M. Mustafa*

ENVR 600. Gold nanoparticle chemiresistor sensor arrays: Towards a sensor system for in-field quantitative BTEX detection in groundwater. *L.J. Hubble, J.S. Cooper, E. Chow, A. Sosa-Pintos*

ENVR 601. Nanoscale chemical sensors for fast and reversible detection of organic vapors. *T. Gao, Y. Wang, Y. Luo, Z. Pittman, A. Oliveira, H. Craig, J. Zhao, B. Willis*

ENVR 602. Portable and rapid immunoassay sensors for antibiotic residues: With nanofibrous membranes. *C. Zhao, Y. Si, A. Taha, T. Pan, G. Sun*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Catalysis for Environmental & Energy Applications

Cosponsored by CATL

A. Orlov, A. Savara, Organizers

6:00 – 8:00

ENVR 603. Enhanced removal of bromate by NZVI supported bimetallic catalyst in a continuous flow system. *D. Abudanash, S. Hamid, S. Han, J. Kim, W. Lee*

ENVR 604. Preparing and testing photocatalytic activities of TiO₂-PVDF composite porous thin-film photocatalysts. *C. Yuan, C. Hung*

ENVR 605. Promotional effects of P doping on CeO₂/TiO₂ catalysts for the selective catalytic reduction of NO by NH₃. *Y. Zeng, S. Zhang, Q. Zhong*

ENVR 606. Nanocomposite materials with 3D porous structure and activated graphene supported pd-nanopallory bifunctional catalysts for application in lithium-ion battery. *N. Bao, J. Tian, Z. Wu, S. Shan, J. Luo, C. Zhong*

ENVR 607. Nano-engineering Pt- and Pd-based catalysts for applications in emission control systems. *S. Wang, S. Shan, H. Kareem, D. Caracciolo, J. Luo, C. Zhong*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

R. Doong, C. Huang, H. Kim, B. Pan, V. K. Sharma, Organizers

6:00 – 8:00

ENVR 608. Developing and optimizing one laccase-mediator system to remove heavy hydrocarbon model compounds from contaminated soil. *Y. Yang, J. Mathieu, Y. Xu, L. Armanado, M. Rostro, R. Kamath, R. Parra, P.J. Alvarez*

ENVR 609. Improvement of heavy metal adsorption ability of thermo-crosslinked PVA/PAA nanofibers containing well-dispersed thiol-modified silica nanoparticles. *J. Kim, T. Kang, S. Oh*

ENVR 610. Preparation of a hierarchical porous hydroxyapatite-carbon composite with the bio-template of stem internodes of sugarcane tops and its removal of cadmium from aqueous solution. *H. Deng, Z. Zhu, Y. Zhu, H. Ding, Y. Li, J. Lin, L. ZHANG*

ENVR 611. Preparation of hydroxylapatite/bagasse biochar composite adsorbent and its adsorption mechanism on As(V) from aqueous solution. *M. Liang, D. Wang, Y. Zhu, Y. Xiao, Z. Zhu, S. Tang*

ENVR 612. Atrazine sorption by biochar: A thermodynamics and kinetics approach. *J.M. Gonzalez, P. Chad*

ENVR 613. Effects of pH in operating solution on the electrochemical performance of LiFePO₄ cathode material coated with carbon. *Y. Tsai, H. Chang, C. Hsieh*

ENVR 614. Characteristics and photocatalytic disinfection performance of chitosan-C-doped TiO₂ composite. *L. Yen, J. Tzeng, K. Tu, Y. Lin*

ENVR 615. Synergistic effect of zero-valent iron and pyrite for reductive removal of nitrobenzene in water. *Y. Li, J. Li, H. Dong*

ENVR 616. Reactivity of graphene oxide and reduced graphene oxide toward Tetrabromobisphenol A, Bisphenol A, and phenol from water: Reaction mechanism and thermodynamic effects. *H.n. Catherine, Y. Lin, Y. Shih, R. Doong*

ENVR 617. Silver-loaded mesoporous silica with strong antibacterial properties. *C. Chen, H. Wu, H. Huang, C. Liu, Y. Chen*

ENVR 618. Structural and component evolution of nanoscale zero-valent iron (nZVI) in Water. *A. Liu*

ENVR 619. Oxygen atom release during selenium oxyanion sorption on goethite and hematite. *P. Yue, N. Chen, D. Peak, A. Onnis-Hayden, P. Larese-Casanova*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Chemistry of Struvite & Slow Release Fertilizers: From Fundamentals of Crystal Growth to Engineered Nutrient Recovery & Their Release

Cosponsored by AGRO
J. Baltrusaitis, Organizer

6:00 – 8:00

ENVR 620. Ammonia gas sorption by struvite recovered from swine and dairy effluent using STA-PTA-FTIR. *M. Ramlogan, A. Rabinovich, A. Rouff*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Division of Environmental Chemistry General Poster Session

J. L. Goldfarb, Organizer

6:00 – 8:00

ENVR 621. Crown ether-enhanced electro dialysis for selective removal of problematic ions in feed water and waste fluid of unconventional energy production. *D. Bedi, M. Findlater, W. Yan, Y. Li, J. Vue, L. Somasundaram*

ENVR 622. Poly(vinyl pyrrolidone) modified poly(vinylidene fluoride) ultrafiltration membrane via a two-step surface grafting for radioactive wastewater treatment. *S. Yu, X. Zhao, X. Zhang, F. Li*

ENVR 623. Carrier element free coprecipitation method for determination of Ni²⁺ and Zn²⁺ by WDXRF. *M. Furukawa, I. Tateishi, Y. Iba, H. Katsumata, S. Kaneco*

ENVR 624. Water quality measurements and training in general chemistry and quantitative analysis: An undergraduate experience in water monitoring. *D.J. Lecaptain, J.H. Tomasik, S.A. Majorski*

ENVR 625. Co-evolution of physical and social sciences in synthetic biology. *I. Linkov, B. Trump, J. Cegan*

ENVR 626. Prototyping and transformation platform of the medicinal mushroom *Ganoderma multipileum*: Establishment and proof of concept by mating type gene transformation. *T. Chou, S. Tzean, Y. Shih*

ENVR 627. Evaluation of anthropogenic impacts on reservoir water quality by monitoring the occurrence of emerging contaminants. *C. Chung, W. Chen*

ENVR 628. Simultaneous absorbance and fluorescence measurements for monitoring organic pollutants in source water. *L. Chen, A. Gilmore, R. Kojima, C. Kow, N.A. Afira, E. Mok, S. Teng*

ENVR 629. Presence of endocrine disrupting chemicals in tidal embayments of the Potomac River. *M.A. Cagle*

ENVR 630. Some factors controlling the formation of hexachlorobenzene in the process of electric arc furnace steelmaking. *N. Tsubouchi, Y. Ohtsuka*

ENVR 631. Coagulation mechanism studies of humic acid with metal ions and radionuclides by molecular dynamic simulations. *Y. Ai, C. Zhao, J. Xing, Y. Liu, J. Jin, L. Sun*

ENVR 632. Isolation and characterization of biochar-derived organic matter fractions and their phenanthrene sorption. *J. Jin, Z. Du*

ENVR 633. Effect of pH Change on the efficacy of *Acacia senegal* as a coagulant for rubber processing effluent treatment. *O.C. Ize-Iyamu, O.K. Ize-Iyamu, J.U. Ukpebor, F.U. Mohammed, E.R. Owhoude, E.E. Ukpebor*

ENVR 634. Screening of methyl paraben and propyl paraben specific binding peptide from phage display library. *J. Lee, S. Bang, Y. Kim, J. Min*

ENVR 635. Comparison between activities of N,N-dimethyl-p-nitrosoaniline and tungsten carbide nanoparticles as spin traps in process of hydroxyl radicals formation during chloride-free electrolysis of water contaminated with *E.coli*. *N. Barashkov, T. Sakhno, I. Irgibaeva, A. Aldangarov, A. Mantel*

ENVR 636. Targeted and non-targeted analysis of organic pollutants in PM_{2.5} by comprehensive two-dimensional gas chromatography coupled with time-of-flight mass spectrometry. *L. Qiao, M. Zheng, L. Gao*

ENVR 637. Sequential extraction of iron components with high purity from mixed metal chlorides by calcium carbonate. *H. Yang, S. Yoon, K. Kim, N.H. Hur*

ENVR 638. Fluorescence method for determination of photochemically generated peroxyxynitrite in seawater. *A.O. Adesina, K. Takeda, H. Sakugawa*

ENVR 639. Impacts of the Gold King Mine Spill have measurable effects on Navajo agricultural lands. *J. Fryom, J.C. Ingram*

ENVR 640. Pesticide profiles in marsh sediment cores obtained from the tidal Potomac River. *E. Lang, G.D. Foster, T.B. Huff, R. McBride, D. Velinsky*

ENVR 641. Synthesis of AFm and AFt phases to sequester halides from flue gas desulfurization (FGD) wastewater. *A. Manikonda, V. Ogunro*

ENVR 642. How not to violate the first law of thermodynamics when modeling the oxidation of atmospheric Hg(0) by OH radical. *T.S. Dibble, H.L. Tetu, Y. Jiao*

ENVR 643. Sorption of ciprofloxacin to aquatic colloids determined through fluorescence quenching. *C. Ajjan*

ENVR 644. Placenta barrier to polycyclic aromatic hydrocarbon transfer from mother to fetus in Kunming, China: The impact of pregnancy complications. *J. Peng, F. Xu, L. Liu, X. Dong*

ENVR 645. Testing the bioavailability of heavy metals in soils polluted by a tungsten mine. *S. Chen, G. Qiu, L. Hesheng*

ENVR 646. Treatment of chromium-containing industrial effluents with a hybrid process comprising of nanofiltration - solvent extraction. *A. Zakmout, F. Hassaine-Sadi*

ENVR 647. Relationship between molecular components and reducing capacities of humic substances. *J. Lv, S. Zhang*

ENVR 648. Coated air filters for removal of molecular and airborne particulate pollutants. *Y. Luo, W. Chen, V.C. Ramos, S. Song, K. Kwan, W. Han, K. Yeung*

ENVR 649. Photolysis of ofloxacin and sulfamethoxazole. *S. Chen, L. Hesheng, G. Qiu*

ENVR 650. Making water permeable ceramic tiles from wasted ceramics. *S. Chen, G. Qiu, L. Hesheng*

ENVR 651. Synthesis and characterization of Vanillin derived azo dyes and investigation of their photophysical properties as chemical sensors. *M. Zaqaout, M. Mustafa, H.D. Tabba, Y.M. Hijji*

ENVR 652. Structural characterization and surface probing of composition-tunable gold-palladium nanoalloys for CO oxidation. *L. Velasco, H. Kareem, S. Shan, Z. Wu, J. Luo, V. Petkov, C. Zhong*

ENVR 653. Study of processes of reduction-oxidation of chromium ions in aqueous solution under action of the direct current discharge of atmospheric pressure in argon. *A. Izvekova*

ENVR 654. Distribution, sources and carcinogenic potential of polycyclic aromatic hydrocarbons in farmlands around the vicinity of tobacco processing industry, Oke-Aran, Igboho, Oyo- State Nigeria. *J.O. Ajibade, T.A. Adedosu, H.O. Adedosu, O.I. Mufutau*

ENVR 655. Benzotriazole removal mechanisms in biofilters planted with *Carex praegracilis*. *C.C. Pritchard, Y. Cho, N. Ashoori*

ENVR 656. Disinfection by-products as green pesticides? *G. Wu, W.W. Wu*

ENVR 657. Synthesis and characterization of acetaminophen derived azo dyes and investigation of their photo physical and biological properties. *A. Khattabi, M. Mustafa, H.D. Tabba, Y.M. Hijji*

ENVR 658. Differences in resistance mechanisms between the root and leaf tissues of hyperaccumulator *Microsorium pteropus* in response to Cd. *X. Lan, Y. Yan, F. Xu*

ENVR 659. Simultaneous arsenic and fluoride removal using high-index TiO₂: From macroscopic level to molecular scale. *Z. Zhou, C. Jing*

ENVR 660. Kinetics study of heterogeneous reactions of n-butylamine with succinic acid using an ATR-IR flow reactor. *Y. Liu*

ENVR 661. Electrostatic potential mapping within aluminosilicate clays: principles that govern organic cation sorption. *A.M. Richard, W. Jolin, A. MacKay, J. Gascon*

ENVR 662. Gas separation by mixed matrix membranes containing inorganic nano-particles ZIF-8 and polymeric membrane PEBAx for CO₂ capture. *J. Kim, T. Park, E. Chung*

ENVR 663. Modeling agricultural pesticide concentration and load trends in U.S. streams and rivers. *K. Ryberg, B. York*

ENVR 664. Degradation of polymers using natural products. *N. Alkhurayef, N. Alfaifi, A.A. Allothman, A. El-Faham, Z. Almarhoon*

ENVR 665. Comparison of chlorinated solvent dechlorination rates across batch-, laboratory-, and pilot-scales. *J. Hnatko, L. Yang, J. Eelsey, T. Tang, M. Arshadi, J. Christ, K. Pennell, N. Capiro, L. Abriola*

ENVR 666. Investigating the cause of death fish washed ashore on an artificial lake in South Texas. *D. Marquez, V.M. Morales, E. Vazquez, E. Padilla, A.K. Addo-Mensah*

ENVR 667. Molecular detection of acylhomoserine lactones (AHLs) in complex matrices. *S. Putnam, A. Lourie, A. Decho, J.L. Ferry*

ENVR 668. Occurrence of hexachlorobutadiene in roadside soils surrounding a waste incineration plant in Eastern China. *H. Zhang, L. Jiang*

ENVR 669. The relation between algae and natural antioxidants. *A.M. Arcement, F. Louka, L. Konur*

ENVR 670. Cyclic alkanes transfer dehydrogenation using homogeneous iridium pincer catalysts. *Z. Al Saihati, M.C. Haibach, N. Swisher, B.M. Stoltz, R.H. Grubbs*

ENVR 671. Monitoring eelgrass productivity in response to environmental stressors. *H.J. Lea, K.E. Buenau, C. Thurman, R.M. Thom, J. Vavrince*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Electrical/Electrochemical Technologies for Environmental Applications

B. P. Chaplin, D. Wang, X. Xie, Y. Yang, *Organizers*
6:00 – 8:00

ENVR 672. Polyaniline-coated carbon nanotube ultrafiltration membranes: enhanced anodic stability for *In situ* cleaning and electro-oxidation processes. *A. Ronen, W. Duan, S.L. Walker, D. Jassby*

ENVR 673. Novel strategy for recycling of electrons: Simultaneous reduction of CO₂ and electrochemical oxidation of aqueous phenol. *C. Guo, G. Zhao*

ENVR 674. Electrocoagulation removal of perfluorocarboxylic acids (PFCAs) (C4-C10) from aqueous solution. *L. Xu, H. Lin, J. Niu, J. Wu*

ENVR 675. Simultaneous electrochemical production of hydrogen peroxide and degradation of organic pollutants. *J. Lim, M.R. Hoffmann*

ENVR 676. Study on stability of TiO₂ nanotube arrays electrode prepared by anodic oxidation. *C. Mo, H. Wei*

ENVR 677. High efficient organic pollutants degradation and simultaneous electricity production based on solar photocatalytic initiation. *J. Bai*

ENVR 678. Electrochemical cell lysis of Gram-positive and -negative bacteria for DNA extraction. *S. Wang, M.R. Hoffmann*

ENVR 679. Formation of chlorinated byproducts during electrochemical oxidation of perfluoroalkyl acids in the presence of chloride. *L. Wang, J. Lu, Q. Huang*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Emerging Challenges in the Era of Drinking Water Insecurity & Inequality & the Search for Low-Cost Solutions

P. M. Gordon, A. Katner, J. L. Sarquis, *Organizers*
6:00 – 8:00

ENVR 680. Use of sulfide-based tailings from mining processes for effective copper removal from contaminated water. *S.P. Chero Osorio, D. Chavez, J.C. Rodriguez-Reyes*

ENVR 681. Investigating the elevated risk of source water contamination imposed by an unprecedented natural disaster. *H. Luo, H. Gai, R. Zhao, H. Lou, X. Lei*

ENVR 682. Legionella propagation in Flint, Michigan drinking water: Detection methods and water quality implications. *H. Adejumo, A. Zarb, S.P. McElmurry, N. Love*

ENVR 683. What's in your water? A look at water quality in Ecuador employing inexpensive labor and techniques. *A.H. Coffman*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

W. Chen, D. D. Dionysiou, J. Liu, V. K. Sharma, B. Yan, *Organizers*

6:00 – 8:00

ENVR 684. Mercury isotopic compositions in aerosols and wet precipitations around a coal-fired power plant in Xiamen, China. *D. Yuan, S. Huang*

ENVR 685. The influences of migration and reproduction on persistent organic pollutant levels in Kentish Plovers (*Charadrius alexandrinus*) from western Bohai Bay, China. *Q. Zhang, S. Zheng, P. Wang*

ENVR 686. Absorption characteristics of diazinon in radish. *H. Shimazu*

ENVR 687. Fine particles regulate hematological effects through the crosstalk of KKS, complement and coagulation systems. *J. Xiaoting, Q. Liu, Q. Zhou, G. Jiang*

ENVR 688. Pesticide transformation by nitrogen oxides on environmentally relevant surfaces. *L. Su, N. Dai*

ENVR 689. Computational study on atmospheric transformation of monoethanolamine. *H. Xie, J. Chen*

ENVR 690. Antimony exposure and speciation in human biomarkers near an active mining area in Hunan, China. *L. Ye, C. Jing*

ENVR 691. HNO₃ modified biochars for uranium (VI) removal from aqueous solution. *Z. Du, J. Jin*

ENVR 692. Biodegradation of methamphetamine and ketamine in river under different conditions and the shift of bacterial community. *W. Zhenglu, X. Zeqiong, L. Xiqing*

ENVR 693. Predicting trace metal bioavailability to chironomids in sediments by diffusive gradients in thin films. *J. Xu, Y. He, C. Guo, J. Lv, Y. Zhang*

ENVR 694. Determination of particulate AgNPs in rat brain and liver. *N. Liu, G. Qu, Q. Zhou, L. Hu, G. Jiang*

ENVR 695. Toxicity of rare earth element containing nanomaterials. *G. Qu, G. Jiang*

ENVR 696. Adipogenic effects of tetrabromobisphenol A analogs in 3T3-L1 adipocytes. *Q. Liu, Z. Sun, Q. Zhou, G. Jiang*

ENVR 697. Mapping interaction mechanism of PFOS adsorption by a nanoparticle library approach. *H. Sun, H. Zhou, B. Yan*

ENVR 698. Ultrathin Cu-doped 2D ZnIn₂S₄ nanosheets for enhancing charge carrier separation to improve hydrogen evolution. *S. Zhan, P. Wang*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Environmental Biofilm Engineering: Harnessing the Power of Biofilms for Contaminant Removal & Resource Recovery

H. Beyenal, B. Cao, R. Nerenberg, *Organizers*
6:00 – 8:00

ENVR 699. Cd²⁺ ions increased biomass and biovolume of *Halanaerobium praevalens* biofilm. *Y. Yang, O. Monzon, P.J. Alvarez*

ENVR 700. Performance of nitrogen-fixing anodic biofilms for potential ammonia production in microbial electrochemical technologies. *J. Ortiz Medina, M. Hyman, A. Grunden, D.F. Call*

ENVR 701. Analysis for cell surface characteristics of two different microorganisms and their adsorption behavior to organic compounds. *Z. Cheng, C. Kennes, J. Chen, D.D. Dionysiou*

ENVR 702. Mathematical modeling of an integrated system using psychrophilic anaerobic digestion to optimize COD/N ratio for mainstream granular nitrification-anammox processes. *Y. Sun, X. Li, Z. Wang, Z. He*

ENVR 703. Mathematical modeling of deep-bed biofiltration to describe contaminant control and headloss development. *Y. Sun, W. Khunjar, E. RoseRosenfeldt, M. Selbes, Z. Wang*

ENVR 704. Simultaneous electricity generation and biotreatment of potato processing wastewater using microbial fuel cell technology. *A.Y. Radeef, Z.Z. Ismail*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Environmental Health & Safety of Emerging Chemicals & Technologies

Cosponsored by AGRO[†]
S. Huo, Y. Li, X. Pan, B. Zhang, *Organizers*
6:00 – 8:00

ENVR 705. Identification of Cd-responsive ATP binding cassette (ABC) transporter genes in rapeseed (*Brassica napus*). *Z. Yang, X. Zhang*

ENVR 706. Current advancement in biopesticide development and the investigation of RNA-mediated technology for pest control. *X. Pan, R.L. Nichols, B. Zhang*

ENVR 707. Testing two synthesized indenopyridine hydrochlorides effects on spermatogenesis using the *Caenorhabditis elegans* model. *X. Pan, J. Henry, L. Qiu*

ENVR 708. Sources and presence of opiates and amphetamines in water, sediment and biota in the tidal freshwater Potomac River and its tributary embayments. *A. Leahigh, G.D. Foster, T.B. Huff, R.C. Jones, K. De Mutsert*

ENVR 709. Selective adsorption of tobacco specific nitrosamines by tailored activated carbon and graphene. *J. Zhu, C. Shi, X. Sun, Y. Wang*

ENVR 710. Molecular dynamics study on calcium induced conformation pathway for annexin A1 and S100A11. *K. Lewis*

ENVR 711. Environmental safety and human health risk of Triclosan substitutes used in pharmaceuticals and personal care products. *S. Buddha, A. Tilahun*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Environmental Obesogens: Exposure Pathways, Mechanism of Action & Trends

Cosponsored by AGRO
J. Legler, B. G. Loganathan, G. Malarvannan, *Organizers*
6:00 – 8:00

ENVR 712. Zebrafish as a model for obesity: Altered adipogenesis in zebrafish larvae following high fat diet and developmental chemical exposure. *J. Legler, M. den Broeder, M. Moester, J. Kamstra, L. Kamminga, F. Ariese*

ENVR 713. Potential environmental obesogens in environmental and biological samples from western Kentucky. *B.G. Loganathan*

ENVR 714. Persistent organic pollutants: Relation with visceral adiposity and glucose metabolism. *M. Govindan, A. Dirtu, E. Dirinck, P. Jorens, V. Luc, A. Covaci*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Fate of Nanomaterials in Consumer Products: Transformation & Transportation in the Environment

S. R. Al-Abed, P. Potter, *Organizers*
6:00 – 8:00

ENVR 715. Metal nanomaterials in consumer products; lack of identification and characterization. *B. Lee, H. Kim, M. Song, K. Yu, D. Park*

ENVR 716. Displacement reactions on coated TiO₂ NPs with humic acid and the implications on their fate in the environment. *H. Wu, N.I. Gonzalez Pech, V.H. Grassian*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Green Chemistry & the Environment

A. Balu, R. Luque, S. O. Obare, N. Vaidya, *Organizers*
6:00 – 8:00

ENVR 717. Derivatization and characterization of cellulose derivatives for synthetic polymer production. *M.K. Lauer, T. Thiounn, A.G. Tennyson, R.C. Smith*

ENVR 718. Finding the sustainable reagents for your reaction-specific needs. *N. Vaidya*

ENVR 719. The selective catalytic reduction of NO over Ce_{0.3}TiO₂-supported metal oxide catalysts. *Z. Duan, J. Liu*

ENVR 720. Green, efficient and recyclable platinum-nickel alloy nanocatalysts for the synthesis of oxime derivatives. *S.S. Albalawi, S.O. Obare*

ENVR 721. Recovery of iron as goethite in the presence of carbonate and dissolved oxygen by fluidized-bed homogeneous granulation (FBHG). *T. Wu, Y. Shih, Y. Huang*

ENVR 722. Reclamation of nickel in wastewater as basic nickel carbonate crystal by fluidized-bed homogeneous crystallization (FBHC). *S. Wang, Y. Shih, Y. Huang*

ENVR 723. Formation of iodinated disinfection byproducts during oxidation of amino acid chlorination in waters. *Q. Lin, F. Dong, C. Li, Y. Li, F. Luo*

ENVR 724. Biogas reforming to produce syngas: System optimization on components for low carbon emissions. *X. Chen, R. Liu, J. Jiang, S. Zhang*

ENVR 725. Effects of hydrogen sulfide on the PEBAX 2533 polymeric membrane for carbon dioxide/hydrogen separation. *T. Park, J. Kim, E. Chung*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans

R. Lohmann, Y. Ma, *Organizers*
6:00 – 8:00

ENVR 726. Analysis of legacy and emerging flame retardants in two avian species from the Niagara Migration Flyway using gas chromatography tandem mass spectrometry. *S. Travis, A. Pérez-Fuentetaja, D.S. Aga*

ENVR 727. Evaluation of legacy and dioxin contaminant levels in salmonid tissues from a Lake Ontario tributary. *A.J. Garner, J.J. Pagano*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal

K. Chu, J. Liu, M. F. Simcik, F. Xiao, *Organizers*
6:00 – 8:00

ENVR 728. Degradation of per- and polyfluoroalkyl substances (PFASs) by sulfate radicals generated from activation of peroxymonosulfate. *Y. Zhang, J. Liu, S. Ghoshal*

ENVR 729. Mass budget for subsurface and riverine PFAs transport and retention in a coastal groundwater and surface water system. *B. Ruyle, A. Tokranov, H. Pickard, E. Sunderland*

ENVR 730. Thermodynamic calculations for the transformation of PFOA and PFOS by sulfate radicals: Feasibility, pathways, and reaction mechanisms. *Y. Zhang, A.H. Moores, J. Liu, S. Ghoshal*

ENVR 731. Refining quantification strategies of per and polyfluoroalkyl substances in aquatic species: Toward a robust multi-analyte method. *G. Auger-Casavant, G. Munoz, S. Vo Duy, J. Liu, S. Sauvé*

ENVR 732. PFAS exposure assessment, fate and transport, and chemometrics: A superfund research project. *H.M. Pickard, A.K. Tokranov, L.B. Barber, C. Dassuncao, X.C. Hu, B. Ruyle, A.M. Vajda, D.R. LeBlanc, C.D. Vecitis, E. Sunderland*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Nanobubbles: A Sustainable Solution for Water Treatment & Agricultural Applications

J. Meegoda, V. Prigiobbe, W. Zhang, *Organizers*
6:00 – 8:00

ENVR 733. Effects of bubble characteristics and solution chemistry on nano bubbles transport in saturated porous media. *S. Hamamoto, A. Ejiri, T.Q. DANG, N. Nihei, T. Takemura, K. Suzuki, S. Bradford, T. Nishimura*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Cosponsored by AGRO
 N. Caprio, D. E. Helbling, M. Li, *Organizers*
6:00 – 8:00

ENVR 734. Adsorption of Cd(II) to graphene oxide. *I. Lopez, J.G. Parsons*

ENVR 735. Reactive ion exchange-assisted high removal capability for trace Cr(VI) removal. *R. Verma, S. Sarkar*

ENVR 736. Improving the efficiency of a permeable reactive barrier in TCE and VC remediation of contaminated groundwater. *S. Saffari Ghandehari, G. Niño de Guzmán, B. Hensel, C. Bodenreider, C.J. Hapeman, D. Jackson, A. Torrents, B. Kjellerup, P. Millner*

ENVR 737. Uncovering a novel bacterial monooxygenase that breaks down 1,4-dioxane. *M. Li, D. Deng, F. Li*

ENVR 738. Kinetics and inhibition of cometabolic oxidation of 1,4-dioxane and Co-contaminants by a novel Gram-negative propanotrophic bacterial isolate. *D. Deng, J.M. Antunes, M. Li*

ENVR 739. Fast separation of heat stable salts. *M. Aggrawal, J. Rohrer*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications

S. Bae, J. Choe, Y. Choi, D. Werner, *Organizers*
6:00 – 8:00

ENVR 740. Evaluation of adsorption and biodegradation for effective sulfamethoxazole removal: Kinetic and mechanism studies. *D. Pham, S. Meyer, M. Li*

ENVR 741. Development of hollow carbon spheres-supported Pd-based catalysts for efficient sorption and reduction of nitrate and nitrite. *K. Hong, J. Choe, Y. Choi*

ENVR 742. Enhanced dechlorination of carbon tetrachloride in nontritone suspension with *Shewanella putrefaciens*. *S. Bae, W. Lee*

ENVR 743. Stabilization of heavy metals by char formation via pyrolysis treatment of TPH and heavy metal contaminated dredged sediment. *K. Kim, G. Joo, Y. Choi*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

G. Chen, L. Fiori, J. L. Goldfarb, P. He, F. Li, M. T. Timko, M. Volpe, R. Volpe, M. Zhao, *Organizers*
6:00 – 8:00

ENVR 744. Torrefaction severity influences combustion and emission characteristics of agricultural waste briquettes as cookstove fuel. *M. Barr, K. Kung, D. Sweeney, A. Ghoniem*

ENVR 745. Bioremoval of dibenzothiophene from synthetic fuels by modified clays. *A. Soliev, S. Shahrear, A.E. Navarro, T. Demeke, B. Moreno*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Cosponsored by AGRO

K. Chandran, N. Love, K. Nelson, W. Tarpeh, K. Wigginton, *Organizers*
6:00 – 8:00

ENVR 746. The impact of disinfection Ct values on cytotoxicity of recycled waters in hydroponics systems: Ozonation vs. chlorination. *S. Dong, N. Massalha, M.J. Plewa, T.H. Nguyen*

ENVR 747. Pharmaceutical interactions with biochar in fresh and hydrolyzed urine. *A. Solanki, T.H. Boyer*

ENVR 748. Urine, a sustainable fertilizer for the future? *M. Pandorf, G. Hochmuth, T.H. Boyer*

ENVR 749. Emission reduction utilizing locational emissions estimation methodology by the Lake Huron Water Treatment Plant. *S.C. Lingenfelter, A. Saiyad, B. Elias, C. Steary*

ENVR 750. Novel synthesis method for nanoscale zerovalent iron from coal fly ash and its application as an environmental catalyst. *S. Yun, H.S. Kim, S. Bae*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Wastewater-Based Epidemiology: Opportunities & Challenges

D. A. Burgard, B. G. Loganathan, B. Subedi, *Organizers*
6:00 – 8:00

ENVR 751. Estimation of the consumption of illicit drugs during special events in two communities in Western Kentucky, USA using sewage epidemiology. *K. Foppe, T.L. Croft, D.R. Hammond-Weinberger, B. Subedi*

ENVR 752. Application of sewage epidemiology to determine community use rate of drugs: Neuropsychiatric and illicit drugs in wastewater and river waters from a community in the Midwestern United States. *A.J. Skees, K. Foppe, B.G. Loganathan, B. Subedi*

ENVR 753. Detection of synthetic stimulant drugs in sewage using liquid chromatography tandem mass spectrometry. *J. Luo, S. Pagsuyoin, D. Bello*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Cosponsored by AGRO

Y. Deng, D. Kriner, T. Wu, *Organizers*
6:00 – 8:00

ENVR 754. Production of a series of multi-dentate ligands with potential to act as water remediation. *M. Ruprecht, B. Sliwinski, B. Sosnowski, P. Fitzgerald, J. Pothoof, M.A. Benvenuto, S.P. Kosmas*

ENVR 755. Emergency water treatment(EWT) with ferrate(VI) in responses to natural disaster. *J. Cui, L. Zheng, Y. Deng*

ENVR 756. Combined treatment of municipal wastewater and acid mine drainage utilizing sulfidogenic bioreactors: kinetic and microbial community analysis. *D. Deng*

ENVR 757. Equilibrium studies on the adsorption and desorption of malachite green dye by spent tea leaves. *Y. Zerhouni, Z. Elzoery*

ENVR 758. Advanced treatment of recalcitrant industrial biological effluent by an upgraded fluid-bed Fenton technology. *T. Zhou, X. Wu, J. Mao*

THURSDAY MORNING**SECTION A**

Boston Convention & Exhibition Center
Room 103

Advanced Oxidation for Water Treatment: Applications & Implications**Various AOPs & Materials for AOPs**

E. Asenath Smith, D. D. Dionysiou, G. Li Puma, D. Minakata, K. E. O'Shea, *Organizers*
 K. Doudrick, W. Song, *Organizers, Presiding*
8:00 Introductory Remarks.

8:05 ENVR 759. Comparative study of the common persulfate activation techniques for the complete degradation of an NSAID: The case of Ketoprofen. *A. Ghauch, M. Amasha, A. Baalbaki, Z. Abou Khalil*

8:30 ENVR 760. Transformation pathway of lipid regulator by ClO⁺ and the toxicity changes. *X. Kong, Z. Wu, S. Hou, K. Guo, J. Fang*

8:55 ENVR 761. Oxidation of organic contaminants by unactivated peroxymonosulfate: Roles of reactive species and direct oxidation. *Y. Yang, G. Banerjee, G.W. Brudvig, J. Kim, J.J. Pignatello*

9:20 ENVR 762. Efficient removal of ketamine by Ag₃PO₄/g-C₃N₄ nanocomposites: Reaction mechanism, impacts of coexisting substances and risk assessment of its degradation products. *C. Guo, M. Chen, J. Lv, J. Xu, Y. Zhang*

9:45 Intermission.

10:00 ENVR 763. Optimization of a titanium dioxide nanotube anode for the photoelectrochemical degradation of emerging organic contaminants in drinking water and wastewater. *S.L. Gora, Y. Gao, Y. Park, B.F. Trueman, G.A. Gagnon*

10:25 ENVR 764. Ti/TiO₂ nanotubes electrodes for photoelectrochemical degradation of methylene blue dye for water treatment. *J.R. Gonzalez Moya, I. Santos, G. Machado, C. Dares*

10:50 ENVR 765. Removal of reactive black 5 by zinc oxide nanoscale photocatalyst through adsorption and photodegradation from water and their recycle. *M. Ou, Y. Shih*

11:15 ENVR 766. Efficient electro-Fenton oxidation process with functional "metal-carbon" aerogel. *Z. Hongying, L. Qian, G. Zhao*

11:40 Concluding Remarks.

SECTION B

Boston Convention & Exhibition Center
Room 161

Nanobubbles: A Sustainable Solution for Water Treatment & Agricultural Applications

J. Meegoda, V. Prigiobbe, W. Zhang, *Organizers, Presiding*
8:45 Introductory Remarks.

8:50 ENVR 767. Molecular dynamics computer simulations study of nanobubble creation and stability. *S. Min, M.L. Berkowitz*

9:15 ENVR 768. Electrochemistry of individual nanobubbles. *H. Ren, M. Edwards, S. German, H.S. White*

9:40 ENVR 769. Thermodynamics of nanobubbles at solid-liquid interfaces. *L. Zargarzadeh, J.A. Elliott*

10:10 Intermission.

10:20 ENVR 770. Dependence of bubble size and zeta potential on membrane surface coating, pore size, injected gas pressure and other water chemistry factors. *W. Zhang, A. Ahmed, T. Marhaba*

10:45 ENVR 771. Behaviours of nanobubbles (NBs) in the solutions of surfactants and metal ions. *B. Thi Thuy, M. Han*

11:10 ENVR 772. Verifying sub-micron (nano) bubbles generation and their fundamental characteristics. *T. Kim, M. Han, J. Kim*

11:35 ENVR 773. Effect of degassing on the aggregation of carbon nanotubes dispersed in water. *C. Chen, J. Huang, I. Hwang, H. Choi, P. Lai, C. Chan*

SECTION C

Boston Convention & Exhibition Center
Room 104A

Physicochemical & Biological Phenomena on Sorbent Surfaces in Environmental Applications

Cosponsored by BIOL

S. Bae, J. Choe, Y. Choi, D. Werner, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 774. Rapid adsorption-microbial reduction of dissolved perchlorate by novel amine-crosslinked magnetic biopolymer resin. *W. Song, B. Gao*

8:25 ENVR 775. Sorption of perfluoroalkyl acids to fresh and aged nanoscale zerovalent iron particles. *Y. Zhang, Y. Zhi, J. Liu, S. Ghoshal*

8:45 ENVR 776. Degradation of PFOS sorbed on surfactant-modified zeolite by hydrated electrons generated from UV-phenol system. *J. Song, Y. Choi, J. Choe*

9:05 ENVR 777. Impact of manganese oxide-coated granular filter media on disinfection byproduct formation. *A. Bazilio, C. Nguyen, X. Mai, J.E. Tobiasson*

9:25 ENVR 778. Elucidation of surface properties of montmorillonite after acid-base reaction and its effect on Cd adsorption. *I. Jeon, J. Jung, K. Nam*

9:45 Intermission.

10:00 ENVR 779. Tailored carbons as non-conventional adsorbents and adsorbent-catalysts. *J.J. Pignatello*

10:40 ENVR 780. Role of structural water and hydroxide vacancies in defluorination mechanisms of calcium hydroxyapatite. *D.S. Mosiman, A. Sutrisno, R. Fu, B.J. Marinas*

11:00 ENVR 781. Comparison of the performance of confined deep eutectic solvents and ionic liquids for the separation of carbon dioxide from methane using molecular dynamics approach. *Y. Shen, F.R. Hung*

11:20 ENVR 782. Adsorption phenomena and related mechanisms of airborne nanoparticles on porous materials. *Z. Li, Y. Liu, C. Tsai, Y. Xing, P. Lu, L. Yin, R.T. Yang*

11:40 Concluding Remarks.

SECTION E

Boston Convention & Exhibition Center
Room 260

Wastewater-Based Epidemiology: Opportunities & Challenges

Cosponsored by ANYL

D. A. Burgard, B. G. Loganathan, B. Subedi, *Organizers, Presiding*

8:00 ENVR 783. Urban metabolism metrology: Policy changes and lessons learned from a U.S. case study. *R.U. Halden*

8:45 ENVR 784. Tracking population stress via analysis of wastewater-borne glucocorticoid hormones. *E.M. Driver, A. Gushgari, J.C. Steele, R. Halden*

9:10 ENVR 785. Immunoassay methods to detect isoprostane: A biomarker of oxidative stress in waste water. *T. Drum, C.G. Daughton, J.M. Van Emon*

9:35 ENVR 786. Modelling illicit drug fate in sewers for wastewater-based epidemiology. *B. Plosz*

10:00 Intermission.

10:15 ENVR 787. Analytical challenges and alternatives for monitoring opioid consumption in communities using wastewater-based epidemiology. *A. Venkatesan, J. Chen, R. Halden*

10:40 ENVR 788. Determination of drugs of abuse in wastewater via SPE-GC-MS/MS. *K.J. Bisceglia, J. Aquino, G. Kroening*

11:05 ENVR 789. Distribution of antibiotic resistant bacteria in sewage treatment plants in India. *J. Kurusam, S. Sarkar, P. Mandal*

11:30 ENVR 790. Mining the chemical information of urban wastewater: Monitoring human exposure to phosphorous flame retardants and plasticizers. *F. Been, M. Bastiaensen, F.Y. Lai, A.L. van Nuijs, A. Covaci*

11:55 Concluding Remarks.

SECTION F

Boston Convention & Exhibition Center
Room 162B

Electrical/Electrochemical Technologies for Environmental Applications

Cosponsored by ENFL

B. P. Chaplin, D. Wang, X. Xie, Y. Yang, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 ENVR 791. Nanomachines-based environmental remediation. *J. Wang*

8:45 ENVR 792. Power production from salinity gradient using Prussian blue analogue based hybrid supercapacitor system. *J. Lee, S. Hong, K. Jo, J. Yoon*

9:10 ENVR 793. Polyaniline nanofiber electrodes for reversible capture and release of mercury(II). *Y. Kim, T.M. Swager*

9:35 ENVR 794. Alkaline intercalated Ti₃C₂ MXene for simultaneous electrochemical detection of multiple heavy metal ions in aqueous environment. *J. Hu, X. Zhu, B. Liu, H. Hou, J. Yang*

10:00 Intermission.

10:15 ENVR 795. Chemical vapor deposited metal-organic covalent networks for electrocatalytic CO₂ reduction. *J. Zhao, M. Zhu, J. Zeng, K. Manthiram, K. Gleason*

10:40 ENVR 796. Environmental applications of electrocoagulation technologies in water/wastewater treatment and site remediation: A decade of progress. *T.C. Timmes*

11:05 ENVR 797. Electro-Fenton degradation of pesticides by metal-organic framework-derived iron nanoparticles. *M. Yu, K. Liu*

11:30 ENVR 798. Electroanalytical and spectroscopic investigation of urine electrooxidation: The effect of major urine compounds on the activity of a nanostructured nickel cobaltite electrode. *K. Doudrick, A. Schranck*

11:55 Concluding Remarks.

SECTION G

Boston Convention & Exhibition Center
Room 152

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Cosponsored by CEI and ENFL

L. Arava, *Organizer*

X. Ling, E. Ryan, *Organizers, Presiding*

9:00 ENVR 799. Ligand-functionalized polymer beads for efficient rare earth element separations. *J.C. Callura, K.M. Perkins, N. Washburn, D.A. Dzombak, A. Karamalidis*

9:20 ENVR 800. Computational design and optimization of porous heterogeneous hierarchical materials. *Q. Ha, A. Roshandelpoor, P. Vakili, J.L. Goldfarb, E. Ryan*

9:40 ENVR 801. Theoretical study of the adsorption of diatomic air pollutant on boron-rich boron nitride nanotube (B₁₈BNNT). *H. Bae, H. Choi, H. Lee*

10:20 Intermission.

10:35 ENVR 802. Engineering crystal facet of α-MnO₂ nanowire for efficient catalytic oxidation of airborne formaldehyde. *P. Zhang, S. Rong*

10:55 ENVR 803. Development of a multi-adsorbent-based thermal desorption (TD)-GC-MS method using metal-organic frameworks and Tenax-TA for concurrent analysis of C1 to C5 aldehydes. *T. Dutta, K. Kim, R. Brown, Y. Kim, D. Boukhvalov*

11:15 ENVR 804. Fabrication of {001} facet-exposed TiO₂ nanotubes photocatalyst filter for indoor air cleaner. *S. Weon, W. Choi*

11:35 ENVR 805. Hierarchical polymer foams for photocatalyzed water treatment of emerging contaminants: Science, technology and policy implications. *A. Perlin, D. Glick, W. Heiger-Bernays, D. Kriner, J.L. Goldfarb*

SECTION H

Boston Convention & Exhibition Center
Room 258B

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment**Catalysis/Photocatalysis**

Cosponsored by GEOC

R. Doong, C. Huang, H. Kim, B. Pan, V. K. Sharma, *Organizers*

J. Chang, W. Chen, S. Virender K, *Presiding*

8:00 Introductory Remarks.

8:05 ENVR 806. Bimetallic catalysis of nitrate on the Surface of Sn-Pd supported by kaolinite. *S. Galagana, S. Hamid, S. Han, M. Babaa, W. Lee*

8:35 ENVR 807. Enhanced catalytic reduction of nitrophenols by sodium borohydride over highly recyclable Au@graphitic carbon nitride nanocomposites. *B. Nguyen, R. Doong, C. Huang*

9:00 ENVR 808. Mechanism of hydroxyl radical production and azo dye degradation during Fe-doped TiO₂ photocatalysis. *C. Hung-Yi, J. Shen, J. Hong*

9:25 ENVR 809. Role of surface structural property in graphene oxide's environmental phototransformation, antibacterial effect, and photocatalysis. *W. Hou, Y. Wang, P. Lee, S. Wu*

9:50 Intermission.

10:10 ENVR 810. Stoichiometry of hydroxyl radicals for photodegradation mechanism of azo dye AO7. *J. Shen, C. Hung-Yi, J. Hong*

10:35 ENVR 811. PAHs degradation by persulfate-based oxidation process with iron-cerium bimetallic particles: Performances and mechanisms. *C. Dong, C. Chen, C. Hsiung, C. Hung*

11:00 ENVR 812. Carbon-silicon composites prepared from recycled kerf-loss silicon particles in diamond-wire saw slicing process and lignocellulose for negative electrodes of Li-ion batteries. *C. Chou, W. Chen, S. Yen*

11:25 ENVR 813. Applications of UV/H₂O₂ process in water treatments: Impacts of particulate organic matter. *T. Ou, G. Wang*

11:50 Concluding Remarks.

AGRO-SETAC Joint Symposium: Challenges of Utilizing Higher-Tier Ecotoxicity Data in Risk Assessment & Risk Management of Pesticides

Sponsored by AGRO, Cosponsored by AGFD and ENVR

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

THURSDAY AFTERNOON**SECTION B**

Boston Convention & Exhibition Center
Room 161

Nanobubbles: A Sustainable Solution for Water Treatment & Agricultural Applications

J. Meegoda, V. Prigiobbe, W. Zhang, *Organizers, Presiding*

1:00 ENVR 814. Controlling arsenic mobilization at eutrophication-induced hypoxia/anoxia zones by oxygen-nanobubble. *Y. Tang, M. Zhang, G. Pan*

1:30 ENVR 815. Water treatment with nanobubbles. *W. Russell*

1:50 ENVR 816. Implementation of nanobubble based technologies in water treatment. *A.J. Atkinson, O. Apul, S. Garcia-Segura, P.K. Westerhoff*

2:10 ENVR 817. Ozone nano-bubbles: Improve water treatment and reduce energy consumption. *J. Hewa Batagoda, J. Meegoda, S.D. Aluthgun Hewage*

2:30 Intermission.

2:40 ENVR 818. Effect of nanobubble water on seed germination and its mechanism. *S. Oshita, S. Liu, T.Q. Dang, S. Maeda*

3:00 ENVR 819. Influences of air, oxygen, nitrogen, and carbon dioxide nanobubbles on seeds germination and plants growth. *X. Shi, A.K. Ahmed, W. Zhang, T. Marhaba*

3:20 ENVR 820. Critical surface hydrophobicity is required for stabilization of nanobubbles on functionalized silica surfaces. *A.P. Goodwin*

3:40 ENVR 821. Standardizing size measurement and concentration techniques for ultrafine bubbles. *D.A. Griffiths, B. Coyne, J. Mehtala, S. Ward-Smith*

4:00 Panel Discussion.

4:20 Concluding Remarks.

SECTION F

Boston Convention & Exhibition Center
Room 162B

Electrical/Electrochemical Technologies for Environmental Applications

Cosponsored by ENFL

B. P. Chaplin, D. Wang, X. Xie, Y. Yang, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 ENVR 822. Sunlight-assisted electrochemical desalination and simultaneous water treatment. *K. Seonghun, G. Piao, B. Kim, D. Han, H. Park*

1:30 ENVR 823. Promotional roles of ion-exchange membrane in electrochemical latrine wastewater treatment. *Y. Yang, M.R. Hoffmann*

1:50 ENVR 824. Rational design of electrochemical cells for high-efficiency and low-risk water disinfection. *J. Zhou*

2:10 ENVR 825. Polydopamine-protected copper-oxide-nanowire enabling stable low-voltage electroporation for water disinfection. *Z. Huo, X. Xie, H. Hu*

2:30 Intermission.

2:40 ENVR 826. Design, implementation, and improvements on an integrated electrochemical wastewater treatment and recycling system for onsite sanitation in the developing world. *C. Cid, M.R. Hoffmann*

ENVR/GEOC

- 3:00 ENVR 827.** Electrochemical coagulation and advanced oxidation processes for removing trace organic compounds. *D.R. Ryan, B. Mayer, P. McNamara*
- 3:20 ENVR 828.** Iron oxide nanowires based filter for inactivation of airborne bacteria. *D. Wang*
- 3:40 ENVR 829.** Electrochemical reduction of nitrate by Ti/Co cathode. *L. Tan, G. Zhang, C. Shuang*
- 4:00** Concluding Remarks.

SECTION G

Boston Convention & Exhibition Center
Room 152

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Cosponsored by CEI and ENFL

E. Ryan, *Organizers*

L. Arava, X. Ling, *Organizer, Presiding*

- 1:00 ENVR 830.** Enhanced phosphate removal by hydrated lanthanum oxides confined in polystyrene networks: Application and mechanism. *Y. Zhang, B. Pan*

- 1:20 ENVR 831.** Degradation of 1-chloronaphthalene and 2-monochlorobiphenyl over the synthesized metal oxide nanomaterials and their hypothesized mechanisms. *G. Su, H. Lu, L. Huang, M. Zheng*

- 1:40 ENVR 832.** Switchable hydrophilicity of heterogeneous polymer photocatalyst for the enhanced catalytic activity in water. *J. Byun, K. Zhang*

- 2:00 ENVR 833.** The effect of MnO₂ phase structure on the oxidative reactivity toward bisphenol A degradation. *J.J. Huang, H. Zhang, S. Zhong*

- 2:20** Intermission.

- 2:35 ENVR 834.** Definition and classification system for advanced materials. *T. Rycroft, A. Kennedy, C. Weiss, J. Brame, V. Zemba, M. Wood*

- 2:55 ENVR 835.** Nanobionic light-emitting plant. *S. Kwak, J. Giraldo, M. Wang, V. Koman, T. Lew, J. Ell, M. Weidman, R. Sinclair, M. Landry, W.A. Tisdale, M. Strano*

- 3:15 ENVR 836.** Glucose amine Schiff bases as selective sensitive probe for detection of cyanide in aqueous media. *Y.M. Hijji, H. Khalil, A. Elsaifi, R. Rajan*

- 3:35 ENVR 837.** Development of nanofibrous membranes from rice flour for high efficiency filtration: Structure-property study. *V. Intasanta, S. Waranuch, N. Subjalearndee, A. Pangan, K. Puagsantia*

- 3:55** Concluding Remarks.

- 8:30** Introductory Remarks.

- 8:35 GEOC 1.** Sweet confinement: Interactions of sugars confined at molecular interfaces. *N.E. Levinger, B.P. Wiebenga-Sanford*

- 9:05 GEOC 2.** Nucleation of calcium phosphate in nano-scale confinement. *D. Kim, B. Lee, S. Thomopoulos, Y. Jun*

- 9:25 GEOC 3.** Partitioning of Cu between size fractions in ferrihydrite and humic acid organominerals. *R. Mendes, T. Vadas*

- 9:45** Intermission.

- 10:05 GEOC 4.** Water under ultra-confinement: Implications for mineral stability. *L. Anovitz, A.I. Kolesnikov, C. Hoffmann, G. Reiter, T. Prisk, P. Kent, E. Mamontov, D. Wesolowski*

- 10:35 GEOC 5.** Probing nano-scale confinement effects with rare earth elements. *A. Ilgen, A. Knight*

- 10:55 GEOC 6.** Coupled chemo-mechanical fracture of silica in aqueous solutions. *L.J. Criscenti*

- 11:15** Concluding Remarks.

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC

Environmental Nanometrology

Sponsored by ENVR, Cosponsored by ANYL and GEOC

SUNDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 257A

Interfacial Chemistry under Nano-scale Confinement

Cosponsored by COLL

Y. Jun, *Organizer*

L. J. Criscenti, A. Ilgen, *Organizers, Presiding*

- 1:00** Introductory Remarks.

- 1:05 GEOC 7.** Hydrocarbons extraction potential of carbon dioxide in source rocks. *I. Akkutu*

- 1:50 GEOC 8.** Molecular simulations of nanostructure, gas adsorption, swelling, and wettability of kerogen. *T.A. Ho, Y. Wang, L.J. Criscenti, A. Ilgen*

- 2:20** Intermission.

- 2:40 GEOC 9.** Confinement-induced solvent effects on electron transfer reactions at water-mineral interfaces. *R. Remsing*

- 3:00 GEOC 10.** Electrokinetic transport of small molecules and ions through single-walled carbon nanotubes. *M.D. Ellison, L.M. Nebel, L.D. Bricker, S. Menges, M. Strano*

- 3:20 GEOC 11.** Strict ion-exchange modeling for cation selective adsorption on Na-montmorillonite. *Y. Li, C. Schulthess*

- 3:40 GEOC 12.** Properties of nano-scale confined water: How confinement disrupts hydrogen bonding networks. *A. Knight, N. Kalugin, E.N. Coker, A. Ilgen*

SECTION A

Boston Convention & Exhibition Center
Room 257A

General Geochemistry

N. Kabengi, A. Rouff, *Organizers, Presiding*

- 4:15** Introductory Remarks.

- 4:20 GEOC 13.** Accumulation of arsenic, mercury and heavy metals in lacustrine sediment in relation to eutrophication: Impacts of sources and climate change. *H. Shouliang*

- 4:40 GEOC 14.** Vanadium contaminated soil remediation: Stabilization using iron-based agents and batch extraction using volatile fatty acids. *Q. Zou, J. Jiang, A. Aihemaiti, D. Li, Y. Gao, M. Yang*

- 5:00 GEOC 15.** Transport of heavy metals and radionuclides in produced water through porous media. *Z. Ye, V. Srinivasan, V. Prigiobbe*

- 5:20** Concluding Remarks.

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC

Environmental Nanometrology

Sponsored by ENVR, Cosponsored by ANYL and GEOC

SETAC-ENVR Joint Symposium: Legacy & Emerging Organic Contaminants in the Great Lakes, Seas & Oceans

Sponsored by ENVR, Cosponsored by ANYL and GEOC

SUNDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

General Geochemistry

N. Kabengi, A. Rouff, *Organizers, Presiding*

- 6:00 – 8:00**

- GEOC 16.** Investigating partition coefficients of trace elements in amorphous calcium carbonate and the behavior of the incorporated ions during crystallization. *B. Demmert, S. Wolf, D. Jacob*

- GEOC 17.** Chemicals derived from debris Polystyrene in waters and sands worldwide. *K. Koizumi, K. Amamiya, M. Okada, T. Hiaki, K. Yamada, S. Chung, K. Saïdo*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Microbial Chemical Processes & Advanced Nanotechnology for Contaminated Site Remediation

Cosponsored by ENVR

E. Chung, B. H. Jeon, M. Kurade, Y. Ok, D. Tsang, *Organizers*

- 6:00 – 8:00**

- GEOC 18.** Characterizing effective diffusion of protons, trichloroethylenes and breakdown products in cationic hydrogels. *S.R. Wolfe, K. Hillyer, K.V. Waynant, J. Moberly*

- GEOC 19.** Microbial reductive dechlorination of tetrachloroethene under iron- and sulfate-reducing conditions. *T.R. Duhl, S. Gaeth, N. Caprio*

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 257A

Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces

Cosponsored by COLL and ENVR

L. J. Criscenti, Y. Hu, S. Lee, *Organizers, Presiding*

- 8:30** Introductory Remarks.

- 8:35 GEOC 20.** An *in situ* look at water structure, molecular binding and self-assembly, and nucleation at mica surfaces. *J.J. De Yoreo*

- 9:05 GEOC 21.** CH₄, CO₂ and H₂O at clay mineral surface: Computational studies of adsorption. *R. Bennick, M.D. Kilmer, L. Tribe*

- 9:25 GEOC 22.** Molecular dynamics simulation of interaction of aqueous solution with minerals nanoparticle, and nanoparticle aggregate. *T.A. Ho, L.J. Criscenti, J.A. Greathouse, Y. Wang*

- 9:55 GEOC 23.** Adsorption of radionuclide cations on clay minerals - atomistic computational modeling of the basal and edge surfaces. *A.G. Kalinichev, B.F. Ngoana-Wakou, I. Androniuk*

- 10:15** Intermission.

- 10:35 GEOC 24.** Adventures in vibrational spectroscopy at clay edges: Can experiments and molecular modeling agree? *J. Harvey, C.T. Johnston, J.A. Greathouse*

- 10:55 GEOC 25.** The structural and compositional complexity of surfaces on minerals and organic matter in soils. *M. Schindler*

- 11:25 GEOC 26.** Aluminum hydroxide nanocluster reactivity studied through computational chemistry. *S.E. Mason*

- 11:45 GEOC 27.** Effect of anions on uptake of Zr nanoparticles on the muscovite (001) surface. *S. Lee, K. Yuan, J. Bracco, M. Schmidt, P. Fenter, L. Soderholm*

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 257A

GEOC

Division of Geochemistry

N. Kabengi, *Program Chair*

OTHER SYMPOSIA OF INTEREST:

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers
(see PRES, Mon)

Frontiers & Challenges in Nanoparticle-Mediated Chemical Transformations
(see COLL, Sun, Mon, Tue, Wed, Thur)

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment
(see ENVR, Mon, Tue, Wed, Thu)

Environmental & Energy-Related Inorganic Chemistry
(see INOR, Tue, Wed)

Environmental Radiochemistry
(see NUCL, Mon, Tue, Wed)

SOCIAL EVENTS:

GEOC Social Hour, 6:00 PM: Tue

BUSINESS MEETINGS:

GEOC Board Meeting, 6:00 PM: Sun

SUNDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 257A

Interfacial Chemistry under Nano-scale Confinement

Cosponsored by COLL

L. J. Criscenti, *Organizer*

A. Ilgen, Y. Jun, *Organizers, Presiding*

Molecular Understanding of the Structure & Reactivity of Mineral-Water Interfaces

Cosponsored by COLL and ENVR
L. J. Criscenti, Y. Hu, S. Lee, *Organizers, Presiding*

1:15 GEOC 28. Determining the reactivity of steps at the calcite-water interface from computer simulation. *M. De La Pierre, A. Schuitemaker, K. Kozziara, R. Demichelis, P. Raiteri, J. Gale, A.G. Stack*

1:45 GEOC 29. Adsorption of molecular and atomic ions on rutile surfaces from simulations using scaled charges. *D. Biriukov, M. Predota, O. Kroutil, M. Kabelac, M.K. Ridley, M.L. Machesky*

2:05 GEOC 30. Modeling competitive adsorption of phosphate and salicylate on the goethite (210) surface. *J.D. Kubicki, J. Guo, L. Ma, T. Ohno, P.G. Hatcher*

2:35 GEOC 31. Aggregation of ferrihydrite nanoparticles: Effects of pH, inorganic ions, and organic matters. *J. Liu, C. Dai, C. Pham, D. Liang, Y. Hu*

2:55 Intermission.

3:15 GEOC 32. Adsorption study of Al^{3+} , Cr^{3+} , and Mn^{2+} onto quartz and corundum using flow microcalorimetry, quartz crystal microbalance and density functional theory. *N. Allen, C. Dai, Y. Hu, J.D. Kubicki, N. Kabengi*

3:35 GEOC 33. Nanopore, surface disorder, and sorption controls on reactivity of the silica-water interface. *J. Nelson, L. Zalles, K. Maher*

3:55 GEOC 34. First principles study of metal ion desorption from deprotonated silica surfaces. *K. Leung, L.J. Criscenti*

4:15 GEOC 35. Optical label- and model-free probing of the surface potential of nanoscale silica particles in aqueous solution. *A. Marchioro, C. Luetgebaucks, S. Roke*

4:35 GEOC 36. Combining vibrational sum frequency generation and molecular dynamics simulations to probe the effect of ions on solvent structure at mineral-aqueous interfaces. *E. Borguet*

Environmental Behaviors & Health Effects of Pollutants: A Symposium in honor of Professor Guibin Jiang

Sponsored by ENVR, Cosponsored by ANYL and GEOC

Environmental Radiochemistry

Sponsored by NUCL, Cosponsored by GEOC

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Absorption

Sponsored by ENVR, Cosponsored by GEOC

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 257A*

Mechanistic Understanding of Mineral Growth & Dissolution

S. Taylor, K. Yuan, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 GEOC 37. Using high-resolution chemical imaging techniques to understand the fate of impurities at the mineral-water interface over multiple scales: The example of $(Ba,Sr)SO_4$, $(Ca,Mg)CO_3$ and $Ca(CO_3)_2$. *J. Weber, L. Anovitz, K. Littrell, J. Bracco, S.R. Higgins, A. Bertagni, S. Jindra, A. Ilevlev, M. Lorenz, J. Poplawsky, V. Starchenko, K. More, A.G. Stack*

9:05 GEOC 38. Geochemical modeling of arsenic co-precipitation and compositional zonation in barite. *F.T. Ling, H. Hunter, J.P. Fitts, A. Lanzirrotti, A.S. Acerbo, C.A. Peters*

9:25 GEOC 39. Validity and limitations of the classical crystallization model. *H. Teng*

9:55 Intermission.

10:05 GEOC 40. Effects of irradiation on albite's chemical durability. *Y. Hsiao, E. La Plante, N. Krishnan, Y. Le Pape, N. Neithalath, M. Bauchy, G. Sant*

10:25 GEOC 41. Iron oxides in reactive systems: Growth, dissolution, and beyond. *J. Voelz, J.H. Strehlau, J.A. Soltis, N.D. Burrows, V. Yuwono, A.M. Vindedahl, W. Arnold, R. Penn*

10:55 GEOC 42. Understanding face-specific interaction of Fe(II) and oxalate with hematite using AFM coupled to NanoSIMS Fe-tracer imaging. *S. Taylor, J.B. Cliff, K.M. Rosso*

11:15 Intermission.

11:25 GEOC 43. Microbial metabolite promoted mineral transformation and implications. *Y. Tang, E. Saad, X. Wang, C. Reinhard, N. Planavsky*

11:55 GEOC 44. Influence of trace metals on iron atom exchange during Fe(II)_{aq}-promoted iron oxide recrystallization. *P. Yue, C. Gorski, P. Larese-Casanova*

12:15 Concluding Remarks.

Environmental Radiochemistry

Sponsored by NUCL, Cosponsored by GEOC

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Sponsored by ENVR, Cosponsored by AGRO³, ANYL and GEOC

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Absorption

Sponsored by ENVR, Cosponsored by GEOC

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 257A*

Mechanistic Understanding of Mineral Growth & Dissolution

S. Taylor, K. Yuan, *Organizers, Presiding*

1:45 Introductory Remarks.

1:50 GEOC 45. Observing nucleation dynamics at the mica-water interface with molecular-resolution atomic force microscopy. *B. Legg, C.J. Mundy, M.D. Baer, J.J. De Yoreo*

2:20 GEOC 46. *In-Situ* ²⁷Al NMR spectroscopy of aluminite in sodium hydroxide solutions above and below saturation with respect to gibbsite. *T. Graham, M. Dembowski, E. Martinez-Baez, X. Zhang, N. Jaegers, J.Z. Hu, M. Gruszkiewicz, H. Wang, A.G. Stack, M.E. Bowden, C. Delegard, G. Schenter, A.E. Clark, S.B. Clark, A.R. Felmy, K.M. Rosso, C. Pearce*

2:40 GEOC 47. Nucleation and growth of crystalline carbonates from amorphous precursors. *D. Joester*

3:10 Intermission.

3:20 GEOC 48. Custom micro- and millifluidic devices for controlled nanoparticle synthesis and real-time *In situ* characterization. *M.M. Michel, R. Serra Maia, M. Bellier, A. Hoehner, K. Kletetschka, M. Bauer, J. Rimstidt, O. Borkiewicz*

3:50 GEOC 49. Construction of photonic structures with minerals: The 3D nanoscopic architecture and formation mechanisms of the blue-rayed limpet shells. *L. Li*

4:20 Intermission.

4:30 GEOC 50. Application of a novel forward flux sampling procedure to the kinetics of water exchange on Li^+ , Ca^{2+} and Mg^{2+} . *A.F. Wallace, Y. Ma*

5:00 GEOC 51. Adsorption mechanism of Cr(III) on boehmite nanoparticles and the effect of Cr(III) on the dissolution of boehmite in caustic solution. *W. Cui, X. Zhang, Z. Wang, P. Li, S. Zheng, C. Pearce, K.M. Rosso*

5:20 GEOC 52. Imaging calcite dissolution in the presence of metal ions by transmission X-ray microscopy. *K. Yuan, S. Lee, V. De Andrade, N.C. Sturchio, P. Fenter*

5:40 Concluding Remarks.

Environmental Radiochemistry

Sponsored by NUCL, Cosponsored by GEOC

Novel Treatment Approaches for Emerging Contaminants in Groundwater Systems

Sponsored by ENVR, Cosponsored by AGRO³, ANYL and GEOC

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Redox

Sponsored by ENVR, Cosponsored by GEOC

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 257A*

Visualizing Heavy Element Contamination in the Environment at the Nanoscale

Cosponsored by ENVR and NUCL

E. Buck, L. He, *Organizers*

J. A. Soltis, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 GEOC 53. Soft X-ray spectromicroscopy for the determination of radionuclide behavior in the environment. *D.K. Shuh*

8:55 GEOC 54. Uranium dioxides and debris fragments released to the environment with cesium-rich microparticles from the Fukushima Daiichi Nuclear Power Plant. *S. Utsunomiya, A. Ochiai, M. Suetake, T. Kamiya, S. Yamasaki, G.T. Law, B. Grambow, T. Ohnuki, R.C. Ewing*

9:15 GEOC 55. Challenges and opportunities in analyzing nuclear material with atom probe tomography. *M. Bachhav, J. Gan, B. Miller, L. He, D. Jadermas, D. Keiser*

9:35 GEOC 56. Uranyl peroxide nanocluster behavior at the mineral-water interface. *L.R. Sadeghaski, A.E. Hixon*

9:55 GEOC 57. Contribution of nano-colloids to actinide solubility in high-salinity brine systems. *D.T. Reed, M.K. Richmann, J. Swanson, E. Yalcintas*

10:15 GEOC 58. Lead and uranium distribution in particles from the Pena Blanca site using Cs-corrected STEM. *E. Buck, E.S. Ilton, B.W. Arey*

10:35 Intermission.

10:55 GEOC 59. Structure and chemistry of heavy elements at mineral-water and mineral-gas interfaces. *J. Stubbs, P.J. Eng*

11:15 GEOC 60. Heavy metal speciation and spatial distribution in phosphate minerals crystallized from wastes. *A. Rouff, G. Lager*

11:35 GEOC 61. Direct observation of plutonium interaction with mineral surfaces using a combination of transmission electron microscopy and x-ray absorption spectroscopy. *E. Balboni*

11:55 GEOC 62. Coupling of defects and incorporation of uranium in hematite. *E.S. Ilton, S. Shaw, K. Morris, J.A. Soltis, M.E. McBriarty*

12:15 GEOC 63. Uranium speciation and atomic-scale distribution during formation and growth of iron oxide minerals. *J.A. Soltis, M. McBriarty, S. Spurgeon, J.J. De Yoreo, E.S. Ilton*

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Catalysis/Photocatalysis

Sponsored by ENVR, Cosponsored by GEOC

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 257A*

Microbial Chemical Processes & Advanced Nanotechnology for Contaminated Site Remediation

Cosponsored by ENVR

Y. Ok, *Organizer*

E. Chung, B. H. Jeon, M. Kurade, D. Tsang, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 GEOC 64. Utilization of zero-valent Mg as a powerful green reductant. *G. Lee*

2:40 GEOC 65. Potential identification of unregulated discharges from microbial population in river sediments. *H. Tung, C. Yu, H.D. Kuo*

3:15 GEOC 66. Formation of mixed-valent nano-precipitates due to electron transfer: Impact on chlorinated solvent degradation. *J. Entwistle, D. Werner, D. Latta, M. Scherer, A. Neumann*

3:40 GEOC 67. Physical and chemical mechanisms of uranium (U) and arsenic (As) sorption onto limestone. *J. Gonzalez Estrella, I. Meza, A. Ali, J.S. Lezama-Pacheco, S.E. Fendorf, J.M. Cerrato*

4:05 Intermission.

4:25 GEOC 68. *In situ* phytoremediation of organic contaminants from textile wastewater using garden ornamental plants in a constructed wetland. *V. Chandanshive, S. Kadam, R. Khandare, M. Kurade, B. Jeon, J. Jadhav, S.P. Govindwar*

5:00 GEOC 69. Microbially driven calcium carbonate precipitation: Kinetics and remediation applications. *E. Lauchnor, E. Stoick, N. Zambare, A. Phillips, R. Gerlach*

5:25 GEOC 70. Bioenhanced diffusion and dynamics of *Dehalococcoides mccartyi* strains in heterogeneous porous media. *J. Hnatko, L. Yang, L. Abriola, N. Capiro*

GEOC/HIST/I&EC

5:50 Concluding Remarks.

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

General

Sponsored by ENVR, Cosponsored by GEOC

THURSDAY MORNING

Chemical Reactions at Solid-Water Interfaces of the Natural & Built Environment

Catalysis/Photocatalysis

Sponsored by ENVR, Cosponsored by GEOC

HIST

Division of the History of Chemistry

N. Tsarevsky, *Program Chair*

BUSINESS MEETINGS:

Business Meeting, 1:30 PM: Sun

SUNDAY MORNING

SECTION A

Seaport Boston Hotel
Constitution

Tutorial & General Papers

N. V. Tsarevsky, *Organizer, Presiding*

8:15 HIST 1. African American women chemists, hiding in plain sight. *J.E. Brown*

8:45 HIST 2. Chemistry in South Korea before and after the Korean War. *C.H. Do*

9:15 HIST 3. Daguerreotypes, mirrors with a memory: The nanotechnology behind the first photographs. *A. Schlather, P. Gieri, A. Manjavacas, S. Centeno*

9:45 HIST 4. William G. Houskeeper and the centenary of the glass-to-metal seal. *R.L. Hudson*

10:15 Intermission.

10:30 HIST 5. Structures from the Werner-Jørgensen controversy: New crystallographic data in the context of the compounds' first syntheses. *D.R. Manke*

11:00 HIST 6. Baeyer-Villiger oxidation: Discovery, discoverers and development. *I. Henrich, D.E. Lewis*

11:30 HIST 7. Rufus Phillips Williams (1851-1911): An exceptional nineteenth century American teacher of chemistry. *W.P. Palmer*

SUNDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Constitution

Past ACS Presidents: The Life & Career of Arthur Cope

R. A. Egolf, J. Hayes, *Organizers, Presiding*

2:00 HIST 8. Service legacy of Arthur C. Cope - ACS and beyond. *J. Hayes*

2:30 HIST 9. Arthur C. Cope: His career and life. *R.A. Egolf*

3:00 HIST 10. Continuing the Cope legacy: The Arthur C. Cope Scholar Awards. *J. Hayes*

MONDAY MORNING

SECTION A

Seaport Boston Hotel
Constitution

Louis Pasteur's Discovery of Molecular Chirality: Review & Analysis on the 170th Anniversary

J. Gal, *Organizer*

G. S. Girolami, *Organizer, Presiding*

8:25 Introductory Remarks.

8:30 HIST 11. Pasteur: Biographical narrative. *V.V. Mainz*

9:00 HIST 12. Foundations of Pasteur's discovery of molecular chirality. *G.S. Girolami*

9:30 HIST 13. Why did Pasteur dissolve his crystals?

B.E. Kahr

10:00 Intermission.

10:15 HIST 14. Louis Pasteur: A philatelic homage.

D. Rabinovich

10:45 HIST 15. More stereochemical discoveries by Pasteur ahead of organic structural formulas. *A. Greenberg*

11:15 HIST 16. Biological aspects of molecular chirality: Some 19th-century highlights. *C.J. Giunta*

Growing with Project SEED: 50 years and 10,000+ Students

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MONDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Constitution

Louis Pasteur's Discovery of Molecular Chirality: Review & Analysis on the 170th Anniversary

J. Gal, *Organizer*

G. S. Girolami, *Organizer, Presiding*

1:30 HIST 17. Symmetry-breaking in organic fluids.

D.M. Walba

2:00 HIST 18. Pasteur and the fine arts. *B. Hansen*

2:30 HIST 19. Pasteur and serendipity in science.

J. Crassous

3:00 Intermission.

3:15 HIST 20. Path to Pasteur's paratartrate discovery: New insights drawn from his wayward first two laboratory notebooks. *G.S. Girolami, J. Gal*

3:45 HIST 21. Nanoscience and chirality. *T. Bürgi*

4:15 HIST 22. Molecular chirality in chemistry and biomedicine Toda. *C.J. Welch*

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

N. V. Tsarevsky, *Organizer*

8:00 - 10:00

1-3, 6. See previous listings.

30. See subsequent listings.

TUESDAY MORNING

SECTION A

Seaport Boston Hotel
Constitution

HIST Award Symposium Honoring David Lewis

Cosponsored by PROF

S. C. Rasmussen, *Organizer, Presiding*

8:30 Introductory Remarks.

8:45 HIST 23. Early history of polyaniline - revisited: Russian contributions of Fritzsche and Zinin. *S.C. Rasmussen*

9:15 HIST 24. Dehydration, dienes, high octane, and high pressures: Contributions from Vladimir Nikolaevich Ipatieff, a father of catalysis. *C.P. Nicholas*

9:45 HIST 25. Laboratory practices and disciplinary boundaries: The early history of deuterium. *S.J. Weininger*

10:15 Intermission.

10:30 HIST 26. Atomic volumes and Mendeleev's development of the periodic table. *V.V. Mainz, G.S. Girolami*

11:00 HIST 27. Russia in the periodic table. *M. Orna*

11:30 HIST 28. Mikhail Vasilyevich Lomonosov (1711-1765): A Russian polymath and chemist. *N.V. Tsarevsky*

TUESDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Constitution

HIST Award Symposium Honoring David Lewis

Cosponsored by PROF

S. C. Rasmussen, *Organizer, Presiding*

1:30 HIST 29. Christian Hoffmann: Wandering chemist. *I. Rae, S. Maroske*

2:00 HIST 30. Twenty years of classic chemistry on the internet. *C.J. Giunta*

2:30 HIST 31. Aleksandr Butlerov and "chemical structure".

A.J. Roque

3:00 Intermission.

3:15 HIST 32. Kazan School of Chemistry: A reinterpretation. *N. Brooks*

3:45 Award Presentation.

4:00 HIST 33. 1859-1860: Magic years in the development of the structural theory of organic chemistry. *D.E. Lewis*

WEDNESDAY AFTERNOON

Polymer History

Sponsored by POLY, Cosponsored by HIST, PMSE and SCC[†]

I&EC

Division of Industrial and Engineering Chemistry

C. Abney and R. Mayes, *Program Chairs*

OTHER SYMPOSIA OF INTEREST:

Joint Symposium of the Separation Science

Subdivisions (*see ANYL, Wed*)

Colloidal & Interfacial Science in Separation Processes (*see COLL, Sun, Mon*)

Pathways for Industrial Chemists Symposium (*see INOR, Mon*)

Industrial Innovations in Polymer Science (*see POLY, Mon*)

How to Get Your 1st Industrial Job (*see PROF, Mon*)

BUSINESS MEETINGS:

SS&T Subdivision Meeting, 12:00 PM: Sat

I&EC Programming Committee Meeting, 1:00 PM: Sat

I&EC Steering Committee Meeting, 2:00 PM: Sat

I&EC Executive Committee Meeting, 3:00 PM: Sat

I&EC Division Open Meeting, 4:00 PM: Sat

SUNDAY MORNING

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS[†], CINP, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Sponsored by ENVR, Cosponsored by AGRO and I&EC

Catalysis for Environmental & Energy Applications

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO, ENFL and I&EC

SUNDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Seaport Ballroom C

Industrial Research of Chemists Local to the New England Region

Cosponsored by CTA

J. Saviano, *Organizer*

K. D. Charette, *Presiding*

1:00 Introductory Remarks.

1:05 I&EC 1. Chemistry jobs: More than just the lab at Silberline. *J.J. Kuhla*

1:30 I&EC 2. BS/MS degrees in chemistry can provide many possible career paths. What about a path in sales and marketing? Let me tell you my story. *T. Tani*

1:55 I&EC 3. Journey from undergrad student to spearheading industrial research in metalworking fluid formulations. *J. Christy-Saviano*

2:20 Intermission.

2:35 I&EC 4. Glimpse into the life of an environmental chemist. *K.R. Christy-Saviano*

3:00 I&EC 5. Digging up data: A journey into operational excellence and continuous improvement in the pharmaceutical industry. *D. Birdsall*

3:25 I&EC 6. The long road: Navigating industrial diversity and adversity to achieve a dream job. *D.P. Uccello*

3:50 Concluding Remarks.

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS[†], CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Water Reuse & Recycling: Innovative Solutions for Treatment & Implementation

Sponsored by ENVR, Cosponsored by AGRO and I&EC

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO, ENFL and I&EC

MONDAY MORNING

SECTION A

Seaport Boston Hotel
Seaport Ballroom C

Chemistry of Molten Salts

Cosponsored by NUCL
R. T. Mayes, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 I&EC 7. A study of LiAlO₂ crystal growth in molten salt. *S. Heo, C. Yuh, P. Singh*

8:35 I&EC 8. Fluoride molten salt purification and test loops at Oak Ridge National Laboratory. *J. McFarlane, E.E. Dominguez-Ontiveros, D.K. Felde, J.R. Keiser, J.R. Massengale, K.R. Robb, A.W. Willoughby, G.L. Yoder*

9:05 I&EC 9. Compatibility studies of Ni-base alloys with commercial molten chloride salt. *B.A. Pint, S.S. Raiman*

9:35 Intermission.

10:05 I&EC 10. Development and application of thermochemical models in molten salt reactors. *T.M. Besmann, J.C. Ard, J.W. McMurray*

10:55 I&EC 11. Corrosion of Ni-Cr alloys in molten chloride salts. *S.S. Raiman, J.W. McMurray*

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

Waste to Product: Biological & Physicochemical Resource Recovery & Efficiency

Sponsored by ENVR, Cosponsored by AGRO, ENFL and I&EC

MONDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Seaport Ballroom C

Chemistry of Molten Salts

Cosponsored by NUCL
R. T. Mayes, *Organizer, Presiding*

1:00 I&EC 12. Radiation chemistry and redox reactions in molten salts. *J.F. Wishart, B.H. Layne*

1:30 I&EC 13. Reactions of water vapor with molten salts used for reducing uranium oxides. *M. Gonzalez, E. Faulkner, S. Adams, M. Simpson*

2:20 Intermission.

2:50 I&EC 14. Thermodynamics and corrosion behavior in molten chloride salts. *J.W. McMurray, S.S. Raiman*

3:20 I&EC 15. DFT and HRTEM studies of LiAlO₂ surface structure and shape in molten carbonate. *S. Heo, P. Singh*

3:50 Concluding Remarks.

Nanomaterials: Applications, Safety Considerations, & Implications for Human Health & the Environment

Sponsored by CHAS, Cosponsored by CCS[†] and I&EC

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Thermochemical & Biochemical Processes

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

C. W. Abney, R. T. Mayes, *Organizers*

8:00 – 10:00

2, 7, 8, 15. See previous listings.

16, 37, 39-41, 43-45, 48-52, 54, 56, 59. See subsequent listings.

TUESDAY MORNING

SECTION A

Seaport Boston Hotel
Seaport Ballroom C

I&EC Graduate Student Awards Symposium

Cosponsored by PROF

M. A. Matthews, P. E. Savage, G. G. Stanley, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 I&EC 16. Integrative CO₂ capture and hydrogenation to methanol with reusable catalyst and amine: Toward a carbon neutral methanol economy. *S. Kar, R. Sen, A. Goepfert, S.G. Prakash*

8:25 I&EC 17. Transfer hydrogenation of CO₂ from glycerol in flow to generate lactic and formic acid. *D. Ainembabazi, J. Heltzel, A. Voutchkova*

8:45 I&EC 18. Fast and isothermal hydrothermal liquefaction of model food waste biomolecules and their ternary mixtures. *A. Gollakota*

9:05 I&EC 19. Towards a generalized techno-economic framework for assessing the viability of electrocatalytic hydrogenation for upgrading biomass-derived intermediates. *M. Orella, S.M. Brown, Y. Roman-Leshkov, F. Brushett*

9:25 I&EC 20. Atomic layer deposited Pt-Co bimetallic catalysts for selective hydrogenation of α , β -unsaturated aldehydes to unsaturated alcohols. *X. Wang, X. Liang*

9:45 Intermission.

10:00 I&EC 21. Liquid phase ethylene production by hydrogenation of acetylene using a selective solvent. Part I: Kinetic studies and modeling. *H. Shariff, M. Al-Dahhan*

10:20 I&EC 22. Oxidative coupling of methane over SrTiO₃ perovskite catalysts: Influence of surface composition and catalyst bed packing modes. *L. Bai, F. Polo Garzon, H. Tian, Z. Wu*

10:40 I&EC 23. Advances in unsupported and supported NiO catalysts for ethane oxidative dehydrogenation. *J. Park, K.J. Stowers*

11:00 I&EC 24. In silico prediction of racemic imine-based porous organic cage crystal. *Y. Liu, G. Zhu, D. Shall*

11:20 I&EC 25. Homogeneous solution-processable mixed matrix membranes for molecular separation processes. *G. Zhu, C.W. Jones, R.P. Lively*

11:40 I&EC 26. Hydrothermal Conversion of Peptides: Reaction Pathways, Kinetics, and Mechanistic Insights. *J.D. Sheehan, P.E. Savage*

Synthesis & Chemistry of Agrochemicals

ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC[†] and ORGN

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Hydrogen, Biofuels & Biomass Upgrading

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

TUESDAY AFTERNOON

SECTION A

Seaport Boston Hotel
Seaport Ballroom C

I&EC Graduate Student Awards Symposium

M. A. Matthews, P. E. Savage, G. G. Stanley, *Organizers, Presiding*

1:00 I&EC 27. Design principles for non-equilibrium self-assembly. *M. Nguyen, S. Vaikuntanathan*

1:20 I&EC 28. Ion-sieving carbon nanoshell for rechargeable Zn-based aqueous batteries. *Y. Wu*

1:40 I&EC 29. Printable nanoparticles and nanowires on flexible and fibrous substrates for scalable manufacturing of wearable electronics and sensors. *S. Yan, J. Lombardi, M.D. Poliks, C. Zhang*

2:00 I&EC 30. Integrating cell-free systems into industrial metabolic engineering design-build-test cycles. *A. Karim, A. Juminaga, Y. Yuan, M. Koepke, M.C. Jewett*

2:20 I&EC 31. Aggregation of insulin A-chain fragments from different species. *P. Nakka, D. Forciniti*

2:40 Intermission.

2:55 I&EC 32. Creating a database to facilitate safer solvent selection. *A. Giarrosso, G. Moraso*

3:15 I&EC 33. Efficient mercury capture using functionalized porous organic polymer. *B. Aguilera, Q. Sun, J.A. Perman, L. Earl, C.W. Abney, R. Elzein, R. Schlaf, S. Ma*

3:35 I&EC 34. Potential impacts to local mineralogy from remediation with ammonia gas. *S.A. Di Pietro, H.P. Palmer Emerson, Y. Katsenovich*

3:55 I&EC 35. Computation-assisted nanopore detection of thorium ions in aqueous media. *G. M Roozbahani, X. Guan, X. Chen, Y. Zhang*

4:15 I&EC 36. Phosphonated Poly(ethylene terephthalate) ionomers as compatibilizers in polyester/polyamide blends for packaging applications. *L. Ju, T.E. Long, R.B. Moore*

4:35 Concluding Remarks.

Synthesis & Chemistry of Agrochemicals

Kenneth A. Spencer Award: Symposium in Honor of Thomas M. Stevenson

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC[†] and ORGN

Thermochemical & Biochemical Conversions of Biomass to Biofuels & Biomaterials for Energy & Environmental Applications

Biochars & Renewable Carbons

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

WEDNESDAY MORNING

SECTION A

Seaport Boston Hotel
Seaport Ballroom C

General Papers

Cosponsored by CATL
C. W. Abney, R. T. Mayes, *Organizers*

N. J. Williams, *Presiding*

8:00 Introductory Remarks.

8:05 I&EC 37. Facile manufacturing on energy-efficient devices with excellent flexibility and surface antireflection. *F. Ko*

8:25 I&EC 38. Evidence of entropic selectivity of xylene isomers in carbon membrane. *Y. Ma, R.P. Lively*

8:45 I&EC 39. Mechanistic understanding of polymeric excipients for inhibiting active pharmaceutical ingredient (API) nucleation in amorphous solid dispersions. *Y. Li, L. Liu, M. Lamm, T.A. Rhodes*

9:05 I&EC 40. Mathematical principle of exponential functional rigorous method for calculating the number of theoretical plates in distillation column. *H. Xu, Y. Liu*

9:25 Intermission.

9:40 I&EC 41. Experimental study on treating and recycling of steel rolling wastewater by constructed wetland enhanced with sulfur autotrophic denitrification. *X. Lin, J. Xu, J. Ren*

10:00 I&EC 42. Prediction of cellulase activity in ionic liquids using COSMO-RS. *J.N. Pedersen, B. Pérez, Z. Guo*

10:20 I&EC 43. An optimal design for a full process of dimethyl carbonate synthesis from urea and methanol. *F. Wang*

10:40 I&EC 44. A robust and rugged FTIR spectrometer designed for industrial chemistry. *J. Speed*

11:00 I&EC 45. Insight into catalysis of Co-SBA-15 for magnesium sulfite oxidation in magnesia desulfurization process. *L. Wang, T. Qi*

11:20 I&EC 46. Preparation and laboratory evaluation of novel scale inhibitor nanofluids as delivery vehicles for oilfield mineral scale control. *P. Zhang, S. Huang, Z. Li, A.T. Kan, M.B. Tomson*

11:40 I&EC 47. CO₂ capture by amino acids and regeneration by simple bisiminoguanidine (BIG) crystallization agents. *N.J. Williams, F.M. Brethomé, C.A. Seipp, E. Holguin, M. Kidder, R. Custelcean*

Synthesis & Chemistry of Agrochemicals

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC[†] and ORGN

Catalysis for Environmental & Energy Applications

Sponsored by ENVR, Cosponsored by CATL, CELL, ENFL and I&EC

WEDNESDAY AFTERNOON

Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC and ORGN

WEDNESDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

General Posters

C. W. Abney, R. T. Mayes, *Organizers*

6:00 – 8:00

I&EC 48. A comprehensive study of hydrosilylation reaction inhibitors in silicone based solventless release coatings. **Z. Niu, Z. Li, D. Rich, A. Dash, E.A. McQuiston, D. Greg, D. Dingman**

I&EC 49. Biodiesel production from wet *Chlorella sp.* and *Rhodotorula sp.* by direct saponification-esterification conversion. **H. Liu**

I&EC 50. Printed paper sensors for detecting chemical/biological species. **S. Yan, S.E. Ruiz, C.S. Soni, B.L. Perris, C.L. Ghazvini, J. Lombardi, J. Luo, M.D. Polks, B.S. Hsiao, C. Zhong**

I&EC 51. Use of dual catalysts synergistically for one-pot synthesis of activated magnetic graphitic carbon spheres. **A.C. Dassanayake, M. Jaroniec, A.A. Goncalves**

I&EC 52. Study on the separation of methane and hydrogen by ZIF-8/glycol-water systems. **C. Jia, Z. Qiao, B. Liu, G. Chen**

I&EC 53. Developing of End-of-Life Treatment Scenarios using Material Flow Analysis and Life-Cycle Assessment Approaches for Petroleum Refinery Waste Management. **N. Urairat, N. Arpompang, S. Khaodhiar, A. Charoensaeang**

I&EC 54. Separation of the gas mixture using the porous slurry. **L. Hai, M. Yang, B. Liu, G. Chen**

I&EC 55. Porous liquids: Application in gas separation and storage. **J.A. Schott, S.M. Mahurin, S. Dai**

I&EC 56. Removal of CO₂ using amino acids and bisiminoguanidine (BIG) ligands. **E. Holguin, F.M. Brethomé, N.J. Williams, C.A. Seipp, M. Kidder, R. Custelcean**

I&EC 57. The absorption rate improvement of carbon dioxide through a gas-liquid membrane contactor with spiral wire channel. **C. Ho, G. Lin, Y. Chen**

I&EC 58. The study of cerium/graphene oxide composite modified prussian blue sensor for hydroxyl radical detection. **S. Duangthaiapornuk**

I&EC 59. Rhodium-catalyzed hydroformylation of vinyl acetate: Effect of phosphine ligands on regioselectivity. **X. Xu, H. Feng, S. Zhao, M. Zhang, D. Liu, J. Jiang**

I&EC 60. Optimization of LNG cascade process. **N. Saetang, U. Suriyaphradilok, M.J. Bagajewicz**

INOR

Division of Inorganic Chemistry

N. Radu and S. Koch, *Program Chairs*

OTHER SYMPOSIA OF INTEREST:

Organometallics Distinguished Author Award

(see *ORGN, Mon*)

Chemistry of Materials Lectureship & Best Paper Award (see *PMSE, Mon*)

Innovation & Commercialization in the Chemical Sector (see *SCHB, Mon*)

2018 ACS Catalysis Lectureship for the Advancement of Catalytic Science: Symposium in honor of

Nicholas Turner (see *CATL, Mon*)

SUNDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 252A

Undergraduate Chemistry Majors Inorganic Symposium

A. J. Morris, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 INOR 1. Women in nanotechnology. **A. De Bettencourt Dias**

8:50 INOR 2. Water splitting & solar fuels: Progress & challenges to widespread utilization. **K. Bren**

9:05 INOR 3. The Halpern legacy: Mechanism, catalysis & organotransition metal chemistry. **A.S. Goldman**

9:20 INOR 4. Recent advances in the photochemistry & photophysics of the P-block elements. **T. Hudnall**

9:35 INOR 5. Pathways for industrial chemists symposium. **L.M. Berreau**

9:50 INOR 6. Organometallics distinguished author symposium. **P.J. Chirik**

10:05 INOR 7. Inorganic Young Investigator Awards. **B.T. Donovan-Merkert**

10:20 INOR 8. Inorganic Nanoscience Award Symposium. **B. Cossairt**

10:35 INOR 9. Inorganic Chemistry Lectureship: Symposium in Honor of Leroy Cronin. **W.B. Tolman**

10:50 Intermission.

11:05 INOR 10. Graduate School Information Session. **A.J. Morris**

SECTION B

Boston Convention & Exhibition Center
Room 251

Recent Advances in Red & Black Phosphorus Chemistry

Financially supported by HORIBA Scientific

H. Ji, *Organizer, Presiding*

M. Shatruk, *Presiding*

8:30 Introductory Remarks.

8:35 INOR 11. Unusual allotropes of low-dimensional semiconductors beyond graphene. **D. Tomanek**

9:05 INOR 12. Rational surface modification of two-dimensional black phosphorus: Insights from first-principles calculations. **T. Mou, B. Wang**

9:35 INOR 13. Suspended black phosphorus nanostructures: From fundamentals to device technologies. **P. Feng**

10:05 Intermission.

10:20 INOR 14. Red phosphorus as an educt in near-room-temperature synthesis reactions in ionic liquids: Reaction monitoring by NMR spectroscopy. **E.W. Brunner, J. Pallmann, A. Weiz, A. Wolff, M. Groh, S. Paasch, T. Doert, M. Ruck**

10:50 INOR 15. Size-dependent properties of polyphosphide nanowires. **C. Pak, S. Mañas, E. Coronado, M. Shatruk**

11:20 INOR 16. Efficient and fast synthesis of few-layer black phosphorus via microwave-assisted liquid-phase exfoliation. **J. Shapter**

11:45 Intermission.

SECTION C

Boston Convention & Exhibition Center
Room 213

Organometallic Chemistry: Catalysis

N. S. Radu, *Organizer*

L. Geary, M. D. Wodrich, *Presiding*

8:30 INOR 17. One-pot production of methanol from CO₂ via tandem catalysis employing an encapsulated catalyst@MOF species. **T. Røyer, Z. Li, E. Adillon, J.A. Byers, C. Tsung**

8:50 INOR 18. Identifying highly active and regioselective homogeneous catalysts from molecular volcano plots. **M.D. Wodrich, C. Corninboeuf**

9:10 INOR 19. Mechanistic studies of single-step styrene production catalyzed by Rh complexes with diimine ligands: A reevaluation of the role of ligands. **W. Zhu, J. Chen, Z. Luo, X. Jia, T. Gunnoe**

9:30 INOR 20. Oxidative arene alkenylation catalyzed by palladium(II) catalyst: Studies on selectivity and air recyclability. **X. Jia, A. Foley, B.A. Vaughan, B.A. McKeown, T.B. Gunnoe**

9:50 INOR 21. Studies into the mechanism of alkene insertion and isomerization in cobalt-catalyzed hydroboration: Applications toward diastereoselective synthesis of 1,3-disubstituted indanes. **N.G. Leonard, P.J. Chirik**

10:10 INOR 22. Applications and mechanisms of external Lewis and Brønsted acid additives in organotransition metal chemistry. **J. Beccia, G. Dobereiner**

10:30 INOR 23. Catalysis enabled by arsine and amine N-oxides and oxygen atom transfer. **L. Geary**

10:50 INOR 24. Preference of redox neutral over redox mechanism for titanium (IV) catalysis: The how, why, and implications. **Z. Wang**

11:10 INOR 25. Transition metal complexes supported by pyrrolide and imidazole ligands with pyridine donors. **J. Sampson, G. Choi, M. Akhtar, E. Jaseer, R. Theravalappil, H.A. Al-Muallem, T. Agapie**

11:30 INOR 26. Pyridine(diimine) molybdenum complexes and their applications to ethylene upconversion and catalytic arene and olefin hydrogenation. **M.V. Joannou, M.J. Bezdek, P.J. Chirik**

11:50 INOR 27. Catalytic asymmetric P-C bond formation via chiral Cu(I)- and Ni(II)-phosphido complexes. **S.K. Gibbons, D.S. Glueck, A.L. Rheingold**

12:10 INOR 28. Olefin and alkyne hydrosilylation catalyzed by cationic iron complexes. **P. Smith, T. Tilley**

SECTION D

Boston Convention & Exhibition Center
Room 212

Inorganic Catalysts

S. A. Koch, *Organizer*

S. M. Kilyanek, *Presiding*

8:30 INOR 29. Computational study of a self-activate PSbP-Pt catalyzed 1,6-enyne cycloisomerization: The role of a novel pincer ligand. **L. Dang**

8:50 INOR 30. Catalytic activation of sp³ C-H bonds by high-spin and spin-crossover Co(II) complexes. **A. Bell-Taylor, C.R. Goldsmith**

9:10 INOR 31. Continuous flow synthesis of carbide nanoparticle catalysts for renewable fuels. **E.J. Roberts, L. Wang, F. Baddour, D. Ruddy, S. Habas, N. Malmstadt, R.L. Brutsche**

9:30 INOR 32. Non-oxo complexes as oxygen transfer agents for oxidation of olefins: A computational study. **R. Parveen, T.R. Cundari**

9:50 INOR 33. Total oxidation of 2-propanol by mesoporous cobalt oxide catalysts. **S.L. Dissanayake, N.D. Wasalathanthri, A.S. Amin, J. He, S. PAGES, S.L. Suib**

10:10 Intermission.

10:25 INOR 34. Activation of C-H and C-O bonds by the TaCl₅-PPh₃ cooperative Lewis pair. **M.M. Rahman, D.V. Peryshkov, M.D. Smith**

10:45 INOR 35. Electrochemical hydrogen evolution catalyzed by molecular molybdenum dioxo complexes. **S.M. Kilyanek**

11:05 INOR 36. DFT study of hydroaminoalkylation of alkenes with amidate tantalum complexes. **A. Nazemi, T.R. Cundari**

11:25 INOR 37. Direct anti-Markovnikov addition of water to olefin to synthesize primary alcohol: A DFT study. **Y.S. Ceylan, T.R. Cundari**

SECTION E

Boston Convention & Exhibition Center
Room 211

Coordination Chemistry: Synthesis & Characterization

A. Larsen, *Organizer*

L. H. Doerrer, D. M. Pinero Cruz, *Presiding*

8:30 INOR 38. Terminal oxo, hydroxo, and water ligands in 3d perfluoropinacolate complexes. **J.K. Elinburg, S.L. Carter, J.E. Henebry, L.H. Doerrer**

8:50 INOR 39. CO₂ activation with a binuclear nickel (0) bis(N-heterocyclic silylene) complex. **A. Bartram, H. Harman**

9:10 INOR 40. Bimetallic Mabiq complex for photocatalysis using earth abundant metals. **S. Stark**

9:30 INOR 41. Synthesis of cyclic polyoxovanadate-alkoxide clusters containing halide templates. **R. Meyer, E. Maston**

9:50 INOR 42. Heterometallic complexes with the polyfunctional ligand orotate: Products with different nuclearities and dimensionalities from the Ln/Co/orotate system. **L.R. Falvello, S. Royo, M. Tomas**

10:10 Intermission.

10:20 INOR 43. Mono and di-nuclear complexes from salen based-ligands as building blocks for new polynuclear complexes. **D.M. Pinero Cruz, K. Gutierrez, S. Lin, Z. Chen**

10:40 INOR 44. Accessibility of 2-pyridinecarboxaldehyde n-oxide via oxidation of 2-pyridinecarboxaldehyde diacetal. **K.A. Goerl, P. Baran**

10:40 INOR 45. Structural resolutions of magic-size (CdSe)₁₃ twin clusters. *T. Hsieh, T. Yang, C. Hsieh, S. Huang, Y. Yeh, C. Chen, E. Li, Y. Liu*

11:00 INOR 46. Adventures in the coordination chemistry of heteroaromatic ketone hydrazone compounds. *M.A. Bakir*

11:20 INOR 47. Non-coupled bimetallic complexes supported by unsymmetric redox-active ligands. *C. Hess*

SECTION F

*Boston Convention & Exhibition Center
Room 209*

Chemistry of Materials: Materials for Energy & Catalytic Applications

C. G. Lugmair, *Organizer*
E. M. Matson, G. Sauve, *Presiding*

8:50 INOR 48. Polyoxovanadate-alkoxide clusters as homogenous models for the investigation of oxygen-atom vacancies in reducible metal oxides. *B. Petel, E.M. Matson*

9:10 INOR 49. Synthesis and characterization of a layered Fe(III)/Mn(III) sulfate material: Applications for lithium-ion battery cathodes and OER catalysis. *K. Fridberg, M.P. Marshak*

9:30 INOR 50. Tailoring chemical composition to achieve enhanced methanol oxidation reaction and ethanol oxidation reaction performance in ultrathin Pt₃Sn₁₃ alloy systems. *L. Li, H. Liu, C. Qin, Z. Liang, A. Seida, S. Yue, X. Tong, R.R. Adzic, S.S. Wang*

9:50 INOR 51. Engineering the position of transition metal dopant in solid hosts for enhanced photocatalytic properties. *P. Darapaneni, N. Moura, J.A. Dorman*

10:10 INOR 52. Self-assembled, metal-oxide clusters as charge carriers for non-aqueous redox flow batteries. *E.M. Matson, L.E. VanGelder, B. Petel*

10:30 INOR 53. Mechanism of laser-induced bulk and surface defect generation in ZnO and TiO₂ nanoparticles: Effect on photoelectrochemical performance. *A.M. Mueller*

11:10 INOR 54. Fluorination increases the electron mobility of zinc azadipyromethene-based electron acceptors and enhances performance of organic solar cells. *S. Peji, A.M. Thomsen, F.S. Etheridge, R. Fernando, C. Wang, G. Sauve*

11:30 INOR 55. Water splitting electrocatalysis within zirconium phosphate layered inorganic nanomaterials. *J.L. Colon, M. Ramos-Garcés, J. Sanchez, I. Barraza, Y. Wu, D.E. Del Toro, D. Villagran, T.F. Jaramillo*

11:50 INOR 56. Metalloconjugated polymer-carbon nanotube hybrids and their photophysical properties. *W. Chan, W. Xiong, L. Du, H. Shi, K. Lo, D. Phillips*

SECTION G

*Boston Convention & Exhibition Center
Room 208*

Bioinorganic Chemistry: DNA, RNA & Inorganic Drugs

S. A. Koch, *Organizer*
J. P. Caradonna, *Presiding*

8:30 INOR 57. Disulfide-masked iron prochelators: Antiproliferative activity in breast cancer cells. *R.D. Utterback, E.A. Akam, E. Tomat*

8:50 INOR 58. Platinum complexes as potential anticancer agents. *R. Khan, A.M. Alsalme*

9:10 INOR 59. Design and synthesis of potent catalytic inorganic therapeutic agents for cancer. *J. Song, J. Mi, B. Liang, D.P. Jones, S. Nie, C.L. Hill*

9:30 INOR 60. Rhenium as an alternative to platinum for the treatment of cancer. *J.J. Wilson, S.C. Marker, C.C. Konkankit, K.M. Knopf*

9:50 INOR 61. Ferrocene based thioureas as non-covalent DNA binders, synthesis, crystal structure, spectral and electrochemical characterization. *B. Lal, K.H. Mirani, A. Altaf, A. Badshah*

10:10 Intermission.

10:20 INOR 62. Spectroscopic and electrochemical studies of interaction between deoxyribonucleic acid and copper complex of triazolediamine Schiff's base. *A. Altaf, A. Badshah, N. Sahar*

10:40 INOR 63. Modeling the binding interaction of inorganic drugs with DNA and G-quadruplexes. *H. Gattuso, A. Spinello, G. Barone, M. Fumana, C. Daniel, A. Monari*

11:00 INOR 64. Highly photoreactive Ir(III) complexes for theranostic applications. *R. Bevernaegie, L. Marcelis, B. Laramee-Milette, J. De Winter, A. Diman, A. Decottignies, P. Gerbaux, G. Hanan, B. Elias*

11:20 INOR 65. Leveraging the galactose recognition machinery for targeted hepatic copper delivery. *T.A. Su, C.J. Chang*

11:40 INOR 66. Targeted live-cell nuclear delivery of the DNA 'light-switching' Ru(II) complex via ion-pairing with chlorophenolate counter-anions: the critical role of binding stability and lipophilicity of the ion-pairing complexes. *B. Zhu*

Synthesis & Characterization of Nanomaterials for Sustainable Energy

Sponsored by MPPG, Cosponsored by INOR

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Small-Molecule Photophysics

Sponsored by PHYS, Cosponsored by INOR

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 252A*

Inorganic Young Investigator Awards

B. T. Donovan-Merkert, *Organizer, Presiding*
1:30 Introductory Remarks.

1:35 INOR 67. Trapping an iron(VI) water-splitting intermediate in nonaqueous media. *B.M. Hunter, N.B. Thompson, A.M. Mueller, G.R. Rossman, M.G. Hill, J.R. Winkler, H.B. Gray*

2:00 INOR 68. Electron- and ion-conducting metal-organic frameworks. *S. Park, M. Dinca*

2:25 INOR 69. Micro/nanorobotics: From locomotion to biomedical applications. *J. Li, J. Wang*

2:50 INOR 70. High-spin iron complexes for C-H amination: from electronic structure to catalysis. *D. Iovan, T. Betley*

3:15 Intermission.

3:25 INOR 71. Rational design of silicon structures for multiscale biointerfaces. *Y. Jiang, B. Tian*

3:50 INOR 72. Tuning the properties of transition metal complexes for applications involving redox-flow battery technologies and bioconjugation strategies. *J. Stauber*

4:15 INOR 73. Structural and electronic correlations in halide perovskites under pressure. *A. Jaffe, Y. Lin, W.L. Mao, H. Karunadasa*

4:40 INOR 74. Combinatorial synthesis of multimetallic heterostructured nanoparticles in polymer nanoreactors. *P. Chen, C.A. Mirkin*

SECTION B

*Boston Convention & Exhibition Center
Room 251*

Recent Advances in Red & Black Phosphorus Chemistry

Financially supported by HORIBA Scientific
H. Ji, *Organizer, Presiding*
M. Shatruk, *Presiding*

1:30 INOR 75. Chiral 3D structures of black phosphorus. *A. Tlahauc-Flores*

2:00 INOR 76. Oxidative environment derived surface study on black phosphorus. *D. Zemlyanov, W. Luo, C. Milligan, Y. Du, L. Yang, Y. Wu, P. Ye*

2:30 INOR 77. Recent progress on stability and passivation of black phosphorus. *Y. Abate*

3:00 INOR 78. Degradation mechanism and protection strategies of few-layer black phosphorus. *J. Wang*

3:30 Intermission.

3:45 INOR 79. Integer and fractional quantum Hall effect in various few-layer black phosphorus transistors. *R. Chen, S. Tran, J. Yang, T. Taniguchi, K. Watanabe, H. Baek, D. Smirnov, C. Lau*

4:15 INOR 80. Towards strain tunable optoelectronic devices. *P. Gant, R. Frisenda, A. Castellanos-Gomez*

4:45 INOR 81. Horiba's new Raman on nanomaterials. *J. Lowry*

5:15 INOR 82. 2D red phosphorus film. *H. Ji*

SECTION C

Boston Convention & Exhibition Center

Room 213

Organometallics Distinguished Author Symposium

P. J. Chirik, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 INOR 83. Mechanisms of nickel-catalyzed cross-electrophile coupling reactions. *D.J. Weix*

2:10 INOR 84. New radical-mediated anti-Markovnikov selective alkene functionalizations. *V.A. Schmidt*

2:45 Intermission.

3:00 INOR 85. Exploiting the coordination non-innocence of antimony ligands to control the reactivity of transition metals. *F.P. Gabbai*

3:35 INOR 86. Catalysis at metal-metal bonds. *C. Uyeda*

SECTION D

*Boston Convention & Exhibition Center
Room 212*

Organometallic Chemistry: Applications to Materials & Polymer Science

N. S. Radu, *Organizer*
J. R. Robinson, *Presiding*

1:30 INOR 87. Flexible site-differentiated beta-diketiminato frameworks and their catalytic activity in ring-opening polymerization (ROP). *J.R. Robinson, X. Dong, E.M. Tsotsos*

1:50 INOR 88. Advances in carbene migratory insertion directed toward transition-metal catalyzed polymer synthesis. *A.V. Zhukhovitskiy*

2:10 INOR 89. Metathesis of conjugated polyunsaturated materials. *G. Turczel, E. Csizmadia, E. Kovács, I. Tóth, P.T. Anastas, R. Tuba*

2:30 INOR 90. Mechanistic studies into iron-catalyzed epoxide polymerization reactions. *K.R. Delle Chiaie, M. Qi, J.A. Byers*

2:50 INOR 91. Subensemble characterization of molecular polymerization catalyst activity through fluorescence microscopy. *Q. Easter, S. Blum*

3:10 INOR 92. New catalyst for alkene hydrosilylation reactions and crosslinking of silicones. *M. Puillet, V. Montel, J. Raynaud, M. Bousquie*

3:30 INOR 93. Group VI metal alkylidene N-heterocyclic carbene complexes: Access to highly tactic and regioselective functional polymers. *M. Benedikter, C. Lienert, G. Frater, M. Buchmeiser*

3:50 INOR 94. Titanium amino-phenolate complexes in controlled methacrylate polymerization. *D. Coward, B. Lake, R. Poli, M.P. Shaver*

4:10 INOR 95. Deactivation of Z-selective olefin metathesis catalyst via 1,2-sulfide shift. *J. Lin, T.P. Montgomery, T. Ahmed, R.H. Grubbs, K.N. Houk*

4:30 INOR 96. Approaches to polymers derived from bis-pincer complexes. *C. Yu, O. Ozerov*

SECTION E

*Boston Convention & Exhibition Center
Room 211*

Electrochemistry

N. S. Radu, *Organizer*
C. J. Ziegler, *Presiding*

1:30 INOR 97. E-switchable ring-opening polymerization of lactide and an epoxide. *M. Qi, Q. Dong, D. Wang, J.A. Byers*

1:50 INOR 98. Electrodeposition of neodymium using room temperature ionic liquids. *P. Bagri, H. Luo, J. Dehaut, S. Dai*

2:10 INOR 99. Directed electrochemical nanowire assembly (DNA): A facile individual nanowire growth method for sensor applications. *B. Ozturk, S. Alotaibi, I. Unlu, G. Basnet, B. Flanders, S. Pokharel, A. Lisi, A. Guver, J. Samba*

2:30 INOR 100. Development of potential pulse deposition (PPD) of CdTe and its application on Au nanorods. *X. Zhang*

2:50 INOR 101. Electrochemical reduction of phosphorus(V) with triaryl borate Lewis acids. *J.S. Elias, C. Cyrille, D.G. Nocera*

3:10 INOR 102. Enhancing the utilization of fluorinated cross-linked polymers for corrosion protection. *W. Yaseen*

3:30 INOR 103. New ferrocene reagents for redox flow battery applications. *B.R. Schrage, Z. Zhao, J.A. Boneyzi, A. Boika, C.J. Ziegler*

3:50 INOR 104. Achieving selective CO electroreduction to fuels by understanding the role of proton transfer. *M. Schreier, Y. Surendranath*

SECTION F

*Boston Convention & Exhibition Center
Room 209*

Coordination Chemistry: Synthesis & Characterization

A. Larsen, *Organizer*
G. Mezei, C. Milsman, *Presiding*

1:30 INOR 105. Developing design principles for early transition metal photosensitizers. *C. Milsman, Y. Zhang, A. Gowda, D. Leary*

1:50 INOR 106. Mn-Ce clusters from reductive aggregation: Unusual long-range Mn-Mn exchange-coupling through Ce^{IV}. *S. Das Gupta, K.A. Abboud, G. Christou*

2:10 INOR 107. Covalent modification of molybdenum-blue polyoxomolybdates with amino acids. *W. Xuan, D. Long, L. Cronin*

INOR

2:30 INOR 108. Spin polarization of spin-triplet transition metal complexes. *M. Fataftah, B.T. Phelan, M.D. Krzyaniak, M.R. Wasielewski, D.E. Freedman*

2:50 INOR 109. Synthesis, x-ray crystallography, spectroscopic and cytotoxicity studies of higher coordinate Gold(I) phosphine complexes. *Z. Assefa, K. Brown, M. Kanipes-Spinks, C. Rorae*

3:10 Intermission.

3:20 INOR 110. Postsynthetic nanojar functionalization by pyrazolate/carboxylate and pyrazolate/pyrazolate ligand exchange. *G. Mezei, C.K. Hartman*

3:40 INOR 111. Reactivity of 2-electron reduced formazanate boron compounds with electrophiles: Facile N-H/N-C bond homolysis due to formation of stable ligand radicals. *R. Mondal, E. Otten*

4:00 INOR 112. Excited state delocalization in polynuclear Ru(II) multiterpyridine complexes. *S. Cerfontaine, L. Marcéls, B. Laramee-Milette, G. Hanan, F. Loiseau, J. De Winter, P. Gerbaux, B. Elias*

4:20 INOR 113. Towards organometallic nanoclusters: Ketimide-stabilized low-valent transition metal clusters. *A.W. Cook, P. Damon, R.A. Lewis, T.W. Hayton*

4:40 INOR 114. Using mono- and bimetallic pyridine diimine scaffolds to study transient reactive intermediates. *D. Gygi, S. Hwang, K. Xia, D.G. Nocera*

SECTION G

*Boston Convention & Exhibition Center
Room 208*

Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, *Organizer*
T. Gadzikwa, L. Wang, *Presiding*

1:30 INOR 115. Utilizing MOFs to improve the efficiency and capabilities of catalytic converters. *R. Tovar, P. Farias, Y. Liu*

1:50 INOR 116. Growth of UiO-66-NH₂ and Cu-TCPP metal-organic frameworks on metal oxide-coated polymer fibers for catalytic hydrolysis of chemical warfare agent simulants and toxic gas adsorption. *D. Lee, J. Zhao, H. Barton, J. Jamir, C.J. Oldham, G. Peterson, G. Parsons*

2:10 INOR 117. Heterogeneous scorpionate site in MOF: Small molecule binding and activation. *L. Wang*

2:30 INOR 118. Aperture-opening encapsulation of a transition metal catalyst in a metal-organic framework for CO₂ hydrogenation. *Z. Li, T.M. Royder, E. Adillon, J.A. Byers, C. Tsung*

2:50 INOR 119. Supramolecular photocatalysis within confined environment of metal-organic framework. *C. Duan, T. Zhang*

3:10 INOR 120. One-pot nanoparticle encapsulation by use of crystalline capping agent UiO-66-NH₂ and their application in selective catalysis. *A.P. Young, J. Yang, L. Zhou, M. Golden, C. Tsung*

3:30 Intermission.

3:45 INOR 121. Tackling unusual selectivity of photocatalytic trifluoromethylation for protection of metabolic sites of drugs by enzyme-mimicking dye-based metal-organic frameworks. *T. Zhang, C. Duan*

4:05 INOR 122. Developing commercial products that utilize metal-organic frameworks: Challenges, lessons learned, and future opportunities. *W. Morris, O.K. Farha, M. Weston, P. Sui, J. Arno*

4:45 INOR 123. Uniformly bifunctional metal-organic framework materials. *T. Gadzikwa, C.S. Satterfield, K.P. Samarakoon*

5:05 INOR 124. Near IR excited fluorescent Nd-MOF conquering concentration quenching problem. *J. Li, Y. Gu, H. Zhou*

Synthesis & Characterization of Nanomaterials for Sustainable Energy

Sponsored by MPPG, Cosponsored by INOR

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Biological Applications

Sponsored by PHYS, Cosponsored by INOR

SUNDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Recent Advances in the Photochemistry & Photophysics of the P-Block Elements

T. Hudnall, F. Jaekle, *Organizers*

5:30 – 7:30

INOR 125. Exploring the photochemistry of diamido and related electrophilic carbenes. *B. Gildner, T.A. Perera, T. Hudnall*

INOR 126. Doublet emitters derived from stable carbenes for potential OLED applications. *G. Harman, C. Barragan, R.N. Arias, T. Hudnall*

INOR 127. Solvent effects on the polarization transfer between a photo-excited spin-polarized radical pair and a TEMPO radical. *C.E. Avalos, G. Stevenato, S. Richert, G. Karthikeyan, O. Ouari, C.R. Timmel, L. Emsley*

INOR 128. N,N-diaryl dihydrophenazine photoredox catalysts: Applications in efficient ring-opening atom transfer radical polymerization. *D. Chen, G. Miyake*

INOR 129. Ladderization of π -conjugated molecules facilitated by boron-nitrogen coordinative bonds. *A. Mu, L. Fang*

INOR 130. Environment-sensitive azepane-substituted β -diketonates and difluoroboron complexes with restricted C-C bond rotation. *F. Wang, D. Song, C.L. Fraser*

SECTION B

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Solid-State Inorganic Chemistry

C. Lugmair, V. Poltavets, *Organizers*

5:30 – 7:30

INOR 131. Strong enhancement of emission efficiency in GaN light-emitting diodes by plasmon-coupled light amplification of graphene. *S. Hwang*

INOR 132. Ultrafast logic computation using nanostructured Ge-Sb-Te phase-change memory materials. *D. Loke, J. Skelton, W. Wang, T. Lee, R. Zhao, T. Chong, S. Elliott*

INOR 133. Visible absorbance variation in Dion-Jacobson perovskites upon acid exchange. *R. Bittues, L. Smith*

INOR 134. Synthesis and thermoluminescence characterization of copper and silver co-doped lithium tetraborate phosphors. *G.M. Celik, N. Yazici, A. Yilmaz*

INOR 135. Strong luminescence in lanthanide-free magnesium nitride chloride with the layered structure. *E. Kim, H. Kang, H. Yang, S. Yoon, W. Chae, N.H. Hur*

INOR 136. Rapid synthetic strategy for Cu₂O hexapod synthesis. *Y. Zubarev, L. Smith*

INOR 137. Photodynamic therapy metal organic frameworks (PDT-MOFs). *N. Azzbilli, R.W. Larsen*

INOR 138. Structure and band gap analysis for new Dion-Jacobson perovskite RbBiKNb₃O₁₀. *W. Nason, L. Smith*

INOR 139. Doping toward unconventional superconducting states in the layered MoT insulator Sr₂Fe₂OS₂. *K. Bayliff, C. Huang, E. Morosan*

INOR 140. Three-dimensional maps of helium nanobubbles in a palladium alloy. *N.R. Catarineu, D.B. Robinson, N.C. Bartelt, W.L. York, S. Vitale, J.D. Sugar, E.L. Bouknight, K.L. Shanahan*

SECTION C

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Organometallic Chemistry: New Ligand Platforms

N. S. Radu, *Organizer*

5:30 – 7:30

INOR 141. Investigation on proton coupled electron transfer of hetero-flavonol. *X. Han*

INOR 142. Structural consequences of adding electrons to boron-doped nanographene. *Z. Zhou, X. Wang, Z. Wei, K. Muellen, M.A. Petrukhina*

INOR 143. Selective sensing of citrate with a macrocycle-based dinuclear receptor. *M.H. Hasan, M. Rhaman, A. Alamgir, R. Tandon, A. Hossain*

INOR 144. Mechanosynthesis of bis(imino)pyridine ligands and related compounds. *T.E. Shaw, L. Garayeva, L. Shultz, T. Jurca*

SECTION D

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Main Group Chemistry

T. Hudnall, *Organizer*

5:30 – 7:30

INOR 145. Around the periodic table at 600 RPM: Mechanochemical synthesis of organometallic species. *R.F. Koby, T.P. Hanusa*

INOR 146. Synthesis and reactivity of amino-hydroborane frustrated Lewis pairs. *E. Rochette, F.G. Fontaine*

INOR 147. Group 13 complexes of nitroxide ligands: Novel redox-active complexes of Al, Ga, and In. *M. Smith, A.J. Woodside, A. Clark, C.R. Graves*

INOR 148. First stable Cu(III) N-heterocyclic carbene accessible from simple copper(II) acetate. *S. Holzl, M.R. Anneser, F.E. Kuehn*

INOR 149. A bench stable Cu(III) N-heterocyclic carbene accessible from simple copper(II) acetate. *S. Holzl, S. Inoue, F.E. Kuehn*

INOR 150. Preparation and chemistry of 1,3,2-diazaborole-derived carbene complexes of boron. *K. Lueddecke, H. Hickox, Y. Wang, G.H. Robinson*

INOR 151. Higher molecular weight cyclic chlorophosphazenes. *C. Salmon, C. Tessier, S. Crabtree*

INOR 152. Synthesis and characterization of iodododecaborates with hydroxyl substituents. *Z. Lincoln, J.A. Dopke, R.J. Staples*

INOR 153. Greener methods of P-N bond synthesis.

S. Crabtree, M.L. Stromyer, C. Tessier

INOR 154. Green, facile method for the synthesis of phosphine sulfides and selenides. *D. Vang, A.B. Olichwier, J.K. West*

INOR 155. Primary phosphines: New synthetic methods and new targets. *B.A. Palen, E. Landgreen, J.K. West*

INOR 156. Computational evaluation of substituent effects on the predicted air-sensitivity of aryl primary phosphines. *E. Landgreen, B.A. Palen, J.K. West*

SECTION E

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Lanthanide & Actinide Chemistry

A. De Bettencourt Dias, *Organizer*

5:30 – 7:30

INOR 157. Synthesis of mixed-ligand lanthanide-based organometallic magnets. *J. Greenough, Z. Zhou, Z. Wei, R. Clerac, M.A. Petrukhina*

INOR 158. Photophysical characterization of a highly luminescent divalent lanthanide-containing azacryptate. *T.C. Jenks, M. Bailey, P.D. Martin, H.B. Schlegel, M.J. Allen, F.A. Rabuffetti, B.A. Corbin, A.N. Kuda-Wedagedara*

INOR 159. Green synthesis of ultrathin CeO₂-doped FeOOH-Co(CO)₃OH/rGO nanohybrids for oxygen evolution reaction. *X. Zhang*

INOR 160. Energy transfer mechanism in Y₂O₃ nanoparticles doped with europium and terbium ions. *S. Sadyk, T.S. Atabaev*

INOR 161. Rare earth oxides and rare earth nitrides via vapor phase approaches using tailored metalorganic precursors. *H. Parala, K. Xu, S. Cwik, A. Devi*

INOR 162. High-nuclearity Ni-Ln (Ln = lanthanide) heterometallic clusters – Synthesis and magnetic studies. *M. Fairley, L. Qin, Y. Zheng, Z. Zheng*

INOR 163. Effects of pyridinium counter-ions on the structure and properties of novel UCl₆²⁺ compounds. *S. Han, J.N. Wacker, K.E. Knape*

INOR 164. Force field parameters for modeling the soft crystals of lanthanides (Nd, Eu, Gd, Tb, and Ho) complexes. *N. Nakayama, S. Obata, H. Gotoh, M. Hasegawa*

SECTION F

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Inorganic Catalysts

S. A. Koch, *Organizer*

5:30 – 7:30

INOR 165. Ge-like cooperated with freeze-drying strategy to construct hierarchically porous polyoxometalate-based metal-organic framework catalysts. *S. Liu, X. Li*

INOR 166. Bioinspired manganese complexes with tetradentate pyridine-appended biperidine ligands catalyze olefin epoxidation. *F. Zhu, G. Yang, A. Zoll, S. Thompson, J. Jackson, P. Milne, E.V. Rybak-Akimova*

INOR 167. Heterogeneous nanocrystalline metal oxide catalysts for aldol condensations derived from pyruvic acid oxime and oxalate precursors. *A.A. Alayyaf*

INOR 168. Mixed-valence {V₁₆} clusters based hybrid material as a nanocatalyst for highly efficient olefin epoxidation in the air. *S. Liu, S. Wang, Z. Zhang*

INOR 169. A kinetic isotope effect study on a bifunctional nickel based catalyst for the CO₂ reduction and hydrogen evolution reactions. *J. Nganga*

INOR 170. Synthesis of mesoporous MgO for Knoevenagel and Claisen-Schmidt condensation reactions. *D. Dissanayake, D. Rathnayake, S.L. Suib*

INOR 171. Highly efficient cobalt catalyzed hydroboration of alkenes and carbonyl compounds. *D. Bedi, M. Findlater, S.R. Tamang, S. Haghighi*

INOR 172. Synthesis, characterization, and oxidation catalysis studies of cobalt-containing pyridine-aza macrocyclic (PyMac) bleomycin model complexes.

S.G. McKenzie, H. Seidel, E.V. Rybak-Akimova

INOR 173. Electrochemical investigation of the effect of mode of inclusion of guest metal ions Fe and Al on oxygen evolution catalysis at Ni(OH)₂/NiOOH films in borate and KOH. **R. Farhat, J. Dhainy, R. Fayad, H. Ghandour, L.I. Halaoui**

INOR 174. Mechanistic studies of hydrogen peroxide activation with non-heme iron aminopyridine complexes: Fe(III), Fe(IV), and beyond. **M. Piquette, G. Yang, O.V. Makhlynets, E.V. Rybak-Akimova**

INOR 175. Amino acid as a chiral modifier in metal-organic framework for asymmetric hydrogenation reaction. **C. Ward, J. Goh**

INOR 176. Syntheses of structurally rigid Mo-Calix[6] azacryptand complexes and studies of dinitrogen reduction. **L.A. Wickramasinghe Weerakkodi, R.R. Schrock, C. Tsay, P. Mueller**

INOR 177. Application of a unique, multifrequency sonication system to improve nanomaterials synthesis through the heterodyne effect. **A. Falco**

INOR 178. Novel rhenium(II) phosphazene complexes with applications towards electrocatalytic CO₂ reduction. **M.R. Crawley, T.R. Cook**

INOR 179. Application of cationic rhodium and ruthenium complexes to catalytic hydrogenation and allylic isomerization. **K. Morris, P.T. Maragh, T.P. Dasgupta, K. Abdur-Rashid**

INOR 180. Air-stable dicopper(I,II)-naphthyridinediimines: Catalytic applications in reactions involving C-H activation of terminal alkynes. **R. Conger, S. Fox**

INOR 181. Intercalation of rhenium bipyridine complexes with zirconium phosphate nanoparticles for energy-related reactions. **D.E. Del Toro-Pedrosa, M. Ramos-Garcés, J.L. Colon, T.F. Jaramillo, J.A. Perez, L. Riera, S. Fombona, R. Arevalo**

INOR 182. Adding molecular diodes into homogeneous photocatalytic systems. **T. Finley, D. Boston**

SECTION G

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Bioinorganic Chemistry: DNA, RNA & Inorganic Drugs

S. A. Koch, Organizer

5:30 – 7:30

INOR 183. Design of deferasirox peptide-conjugated ligands for a selective delivery of anticancer Ti(IV) compounds. **L.V. Fernandez, A.D. Tinoco, M. Pandrala**

INOR 184. Transition metals coordination and biological investigations of alpha-pyridoin-benzylhydrazone derivatives. **D.A. Alwaheeb**

INOR 185. Asymmetric cobaltocenium derivatives for mediated electrochemical biocatalysis. **J. Najjar, C. McCully, A.K. Udit**

INOR 186. Fluconazole needs copper or iron to generate reactive oxygen species and damage DNA. **A.A. Gaertner, L. Kozubowski, J.L. Brumaghim**

INOR 187. Development of prostate cancer targeted prodrugs based on the copper chelator disulfiram. **A. Dharani, S. Bakthavatsalam, K.J. Franz**

INOR 188. Synthesis and reactivity of gold (II) tetrathiomolybdate complexes. **D. Humaidy, G.S. Garsinghe, A.E. Bruce, M.R. Bruce**

INOR 189. Bifunctional ligands of Ac-225 for potential applications in antibody-targeted alpha radiotherapy of cancer. **S. Ren, C. Kang, X. Sun, H. Song, Y. Liu, Y. Chen, H.S. Chong**

INOR 190. Nanomedicine for trans-epithelial oral delivery of Ivermectin for Zika. **B. Surnar, S. Dhar**

INOR 191. Tuning the excited state properties of tridentate ruthenium(II) complexes for use in photodynamic therapy by employing N-heterocyclic carbenes. **R. Ryan, K.C. Stevens, D.K. Heidary, E.C. Glazer, J.P. Selegue**

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 252A

Inorganic Chemistry Lectureship: Symposium in honor of Leroy Cronin

W. B. Tolman, Organizer, Presiding

8:30 INOR 192. Nanoscale inorganic clusters and inorganic-organic hybrid macromolecules - ideal models for solution physical chemistry. **T. Liu**

8:55 INOR 193. Polyoxometalates and beyond: Lessons learned from working with Lee Cronin. **C. Streb**

9:20 INOR 194. Phosphine, arsine and related metal-organic frameworks: Unique catalyst support materials. **S.M. Humphrey, S.G. Dunning, R.E. Sikma, J.E. Reynolds, R. Riparetti, W. Cha, G. Henkelman**

9:45 Intermission.

9:55 INOR 195. Polyoxometalates: From artificial enzymes to protein based supramolecular hybrid materials. **T.N. Parac-Vogt, H.T. Ly, L. Vandebroek**

10:20 INOR 196. Water oxidation with cobalt compounds: A quest for essentials. **G.R. Patzke, F. Song, S. Luber, J. Li**

10:45 INOR 197. Inorganic metal-oxo clusters: Breaking down the metal-ligand wall. **M.D. Nyman**

11:10 INOR 198. Exploring the self-assembly of molecular metal oxide nanoclusters. **L. Cronin**

11:40 Concluding Remarks.

SECTION B

Boston Convention & Exhibition Center
Room 251

Recent Advances in Red & Black Phosphorus Chemistry

Financially supported by HORIBA Scientific
H. Ji, Organizer, Presiding
M. Shatruk, Presiding

8:30 INOR 199. A versatile and efficient red phosphorus photoelectrode. **Z. Hu, J.C. Yu**

9:00 INOR 200. Black phosphorus optoelectronics and electronics. **F. Xia**

9:30 INOR 201. Mid-infrared tunable black phosphorus phototransistor for on-chip sensing applications. **K. Ang, L. Huang, B. Dong, C. Lee**

10:00 Intermission.

10:15 INOR 202. 2D black phosphorus photodetector for near-infrared imaging applications. **C. Wang, J. Miao**

10:45 INOR 203. Black phosphorus for high-performance photodetectors. **A.B. Kaul**

11:15 INOR 204. Black phosphorus-based photocatalysts for efficient H₂ and O₂ evolution from water under visible and near infrared light irradiation. **T. Majima**

SECTION C

Boston Convention & Exhibition Center
Room 213

Women in Nanotechnology

Cosponsored by WCC
J. Hahn, Organizer
A. De Bettencourt Dias, Organizer, Presiding
J. Hahn, Presiding

8:30 Introductory Remarks.

8:35 INOR 205. Conversion reactions of atomically-precise semiconducting clusters. **B.M. Cossairt, J. Stein, M. Friedfeld, A. Ritchhart**

8:55 INOR 206. Surface assembly configurations and packing preferences of various proteins on block copolymer nanodomains. **J. Hahn**

9:15 INOR 207. Escaping flatland: Noncovalent monolayers on 2D materials as a foundation for nanoscale 3D design. **S.A. Claridge**

9:35 Intermission.

9:45 INOR 208. Nanoscale colors: The art and science of colloidal gold. **C.J. Murphy**

10:05 INOR 209. Soft surface engineering: The nanoliter aqueous droplet. **S. Lee**

10:25 INOR 210. Fracture healing is expedited via preferential upregulation of Wnt/ β -catenin using targeted nanoparticle GSK3 β inhibitor delivery. **Y. Wang, M. Newman, M. Baranello, T. Sheu, J. Puzas, D. Benoit**

10:45 Intermission.

10:55 INOR 211. DNA-boundaries enhance the binding affinity and proteolytic activity of thrombin. **E. Schöneweiß, K. Bravo-Rodriguez, P. Sokkar, E. Sanchez-Garcia, B. Sacca**

11:15 INOR 212. Engineered nanostructures as a new cue to regulate cellular signaling processes. **G. Liu**

11:35 INOR 213. How nanoscopic surface features on microparticles produce rotation-sensitive adhesion and particle rolling motion in flow. **M.M. Santore**

SECTION D

Boston Convention & Exhibition Center
Room 212

The Halpern Legacy: Mechanism, Catalysis & Organotransition Metal Chemistry

A. S. Goldman, Organizer
C. R. Landis, Organizer, Presiding

8:30 Introductory Remarks.

8:40 INOR 214. Mechanistic studies inspired by Jack. **J.E. Bercaw**

9:10 INOR 215. The Halpern Files: Publications from Jack Halpern that guide organometallic chemistry education and research. **M.Y. Darensbourg**

9:40 INOR 216. Selective stoichiometric and catalytic reactions in water-soluble host-guest supramolecular systems. **R.G. Bergman**

10:10 INOR 217. Design and development of a synthetic enzyme for use as a pharmaceutical agent to reduce the undesired side effects of radiation treatment in cancer therapy. **D.P. Riley**

10:40 INOR 218. Unusual coordination chemistry regulates vitamin B₁₂ trafficking. **R. Banerjee**

11:10 INOR 219. The synthesis of CalixAzaCryptand molybdenum complexes for the catalytic reduction of dinitrogen to ammonia with protons and electrons. **R.R. Schrock, L.A. Wickramasinghe**

11:40 INOR 220. Resuscitation of neutrophilic hypochlorous acid-induced damage of mammalian cells by thiocyanate. **M.T. Ashby**

SECTION E

Boston Convention & Exhibition Center
Room 211

Coordination Chemistry: Synthesis & Characterization

A. Larsen, Organizer
S. Fox, R. J. Gilliard, Presiding

8:30 INOR 221. Dicopper(I,II)-naphthyridinediimine-bis-mercaptides as model complexes of reduced copper. **A. S. Fox, R. Conger**

8:50 INOR 222. Tunable secondary sphere hydrogen bonding for small molecule reduction by first row transition metals. **J. Wilson, N.K. Szymczak**

9:10 INOR 223. Cellulose-Co(II)-bis-terpyridine hybrid colorimetric sensor for micromolar level aqueous cyanide. **C.R. Collins, S. Love, D.J. Boston, I. Bhowmick**

9:30 INOR 224. Slow magnetization of axial Dy(III) complexes and their relaxation in zero field. **A. Upadhyay, M. Nippe**

9:50 INOR 225. Probing steric and electronic effects in substituted trispyridylphosphine ligands using molybdenum carbonyl complexes. **L. Leonard, M. Bezpalko, W.S. Kassel**

10:10 Intermission.

10:20 INOR 226. Low-valent bismuth complexes enroute to bismuth hydride. **G. Wang, L. Freeman, R.J. Gilliard**

10:40 INOR 227. High-Pressure methane storage in carbazole-based porous cages. **C.A. Rowland, B.A. Trump, C.M. Brown, E.D. Bloch**

11:00 INOR 228. Molybdenum-based porous molecular cages for gas storage and solvatochromic sensing. **G.R. Lorzing, E.D. Bloch**

11:20 INOR 229. Design and synthesis of highly porous coordination cages. **C.A. Rowland, E. Gosselin, O. Barreda, G.R. Lorzing, G.E. Decker, E.D. Bloch**

11:40 INOR 230. Confinement effects on chemical equilibria: Pentacyano(pyrazine)ferrate(II) stability changes within nanosized droplets of water. **D.C. Crans, T. Borunda, A. Myers, M.D. Johnson, M.J. Fisher**

SECTION F

Boston Convention & Exhibition Center
Room 209

Inorganic Catalysts

S. A. Koch, Organizer
T. R. Cook, S. K. Hurst, Presiding

8:30 INOR 231. Synthesis of a series of palladium and platinum derivatives. **S.K. Hurst**

8:50 INOR 232. Impact of metal identity and supporting ligand on acetylene hydration by group six catalyst models. **A. Najafian, T.R. Cundari**

9:10 INOR 233. Electro- and photo-catalytic carbon dioxide reduction using the homogeneous transition metal complexes. **Y. Hameed, G. Rao, B. Gabidullin, D.S. Richeson**

9:30 INOR 234. Formation, spectroscopy, and oxidase/oxygenase reactivity of two fluorinated [Cu₂O₂] species. **S.E. Neville, E. Norwine, V. Oswald, N. Orth, I. Ivanovic-Burmazovic, M. Domin, D. Rukser, F. Biebl, B. Grimm-Lebsanft, G. Praedel, M. Teubner, M. Rubhausen, P. Liebhauser, T. Rosener, J. Stanek, A. Hoffmann, S. Herres-Pawlitz, L.H. Doerrer**

INOR

9:50 Intermission.

10:10 **INOR 235.** The role of the metal in the dual-metal catalyzed hydrophenoxylation of diphenylacetylene.

A. Poater

10:30 **INOR 236.** Covalent electrocatalyst immobilization on high surface area carbon materials. **C. Knell, L.A. Berben, S.L. Scott, B. Johnson**

10:50 **INOR 237.** Small molecule activations with self-assembled polynuclear catalysts. **T.R. Cook, A.N. Oldacre**

11:10 **INOR 238.** Hydrogen production catalyzed by molecular Co complexes with polydentate ligands in aqueous solution. **X. Zhao, P. Wang, X. Hu, G. Liang, P. Li, C. Mokry, S. Lei, M. Saw, C. Odera, C.E. Webster**

11:30 **INOR 239.** Computational modeling of rhenium electrocatalysts featuring charged functional groups in the secondary coordination sphere for CO₂ reduction. **J. Panetier, X. Li, S. Sung, M. Nippe**

SECTION G

Boston Convention & Exhibition Center
Room 208

Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, *Organizer*

R. W. Larsen, C. Mottillo, *Presiding*

8:30 **INOR 240.** Two-dimensional transition metal dichalcogenides as metal source of metal-organic frameworks. **Y. Liu, Y. Sun, S. Hu, X. Guo, C. Song**

8:50 **INOR 241.** Extended DLVO interactions of a metal-organic framework: Implications on colloidal dispersion. **E.L. Butler, B. Reid, C. Petit, P.F. Luckham, A.G. Livingston, S. Guldin**

9:10 **INOR 242.** Fabrication of MOF@polymer architecture towards precise functional composite materials. **T. Li, S. He, H. Wang**

9:30 **INOR 243.** The design and synthesis of optically active coordination polymers and metal organic frameworks. **P. Julien, H.M. Titi, T. Friscic, R.D. Rogers**

9:50 **INOR 244.** Electrochemical synthesis of metal-organic frameworks on modified electrode surfaces. **G.E. Decker, W. Wu, E.D. Bloch**

10:10 Intermission.

10:25 **INOR 245.** MOF-polymer composite nonwovens by solution blow spinning. **J. Deneff, K.S. Walton**

10:45 **INOR 246.** Metal-organic frameworks with multi-components in order. **B. Tu, Q. Li**

11:05 **INOR 247.** Modulating the photophysics of ruthenium polyimine complexes through encapsulation in metal organic frameworks: A time dependent density functional theory study. **R.W. Larsen, L. Wojtas, T.J. Green**

11:25 **INOR 248.** Nanocasting in metal-organic framework materials. **A. Stein, C. Malonzo, Z. Wang, W. Zhao, T. Webber, R. Penn**

11:45 **INOR 249.** Clean and scalable synthesis of microporous metal-organic frameworks in supercritical carbon dioxide. **C. Mottillo, J. Marrett, S. Girard, J. Do, C.W. Nickels, D. Gandrath, L. Germann, R. Dinnebier, A.J. Howarth, O.K. Farha, T. Friscic, C. Li**

Innovation & Commercialization in the Chemical Sector

Sponsored by SCHB, Cosponsored by INOR

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Spin Crossover & Transition Metal Photophysics

Sponsored by PHYS, Cosponsored by INOR

Chemistry of Materials Lectureship & Best Paper Award

Sponsored by PMSE, Cosponsored by INOR

MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 252A

Water Splitting & Solar Fuels: Progress & Challenges to Widespread Utilization

K. Bren, T. D. Krauss, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 **INOR 250.** Solar production of C₈⁺ fuels. **D. Loh, S.N. Nangle, P. Silver, D.G. Nocera**

2:05 **INOR 251.** First-row transition metal catalysts for water splitting and CO₂ reduction. **Z. Han**

2:35 **INOR 252.** Multifaced mechanisms of CO₂ reduction to CO by iridium(III) phenyl-pyridine photo- and electrocatalysts. **G. Manbeck, E. Fujita, D.E. Polyansky**

3:05 **INOR 253.** Recent studies of the electrochemical reduction of CO₂ by Mn, Re, and Ni complexes. **C.P. Kubiak**

3:35 Intermission.

3:50 **INOR 254.** Robust catalysts for solar-driven water splitting. **H.B. Gray**

4:20 **INOR 255.** Changes in nanocrystal surface chemistry upon ligand exchange and the addition of charge carriers. **J.L. Dempsey, C. Hartley, M. Kessler, H. Starr, K. Rountree, R. Knaut**

4:50 **INOR 256.** Ligand-controlled synthesis and electrochemistry of colloidal copper and iron oxide nanocrystals. **D.A. Brewster, M. Tariq, J.W. Andrews, D.J. Sarappa, K.E. Knowles**

SECTION B

Boston Convention & Exhibition Center
Room 251

Recent Advances in the Photochemistry & Photophysics of the P-Block Elements

T. Hudnall, *Organizer*

D. W. Johnson, *Presiding*

1:30 **INOR 257.** Strongly reducing visible light organic photoredox catalysts. **G. Miyake**

1:50 **INOR 258.** Tellurium-containing aerobic photocatalysts. **T. McCormick**

2:10 **INOR 259.** Photoswitchable carbenes: Using light to control organo- and metal-mediated transformations. **C. Bielawski**

2:30 **INOR 260.** Metal-free nanomaterials as photosensitizers for hybrid photocatalytic systems. **C.A. Caputo, H.L. Bell, C.A. Ayotte, S. Hollen**

2:50 Intermission.

3:00 **INOR 261.** Pyrilyum and thiopyrilyum catalysts for photoredox-mediated ring-opening metathesis polymerization. **A.J. Boydston, L.M. Pascual, P. Lu**

3:20 **INOR 262.** Irradiation of white phosphorus as a means to access the chemistry of diphosphorus. **D. Tofan, A. Velian, C.C. Cummins, L. Wang, J. Chen, T.A. Van Voorhis**

3:40 **INOR 263.** Synthesis and photoreduction of heteronuclear late transition metal/main group element complexes. **F.P. Gabbaï**

4:00 **INOR 264.** Supramolecular assemblies and anion recognition: Going p-block. **C. Deng, J. Lohrman, J. Bard, M.M. Haley, D.W. Johnson**

SECTION C

Boston Convention & Exhibition Center
Room 213

Women in Nanotechnology

Cosponsored by WCC

J. Hahn, *Organizer*

A. De Bettencourt Dias, *Organizer, Presiding*

J. Hahn, *Presiding*

1:30 Introductory Remarks.

1:35 **INOR 265.** The effect of extreme spatial confinement on the glass transition and thermal stability of polymers infiltrated in nanoparticle films. **Z. Fakhraai, H. Wang, J. Hor, D. Lee**

1:55 **INOR 266.** Controlling nanoscale disorder in soft materials. **T.W. Odom**

2:15 **INOR 267.** Carbon nanomaterial electrodes for neurotransmitter detection. **B.J. Venton, C. Yang, P. Puthongkham, Q. Cao**

2:35 Intermission.

2:45 **INOR 268.** The role of interfaces for water and binary systems under confinement. **T.L. Head-Gordon**

3:05 **INOR 269.** Synthesis of nanoparticles with strained alloyed surfaces as effective catalysts. **S.E. Skrabalak, J. Gamler, H. Ashberry**

3:25 **INOR 270.** Polymer ultrathin films: Preparation, stability, and morphology. **W. Chen**

3:45 Intermission.

3:55 **INOR 271.** Controlling the chemical environment of robust nanodiamond supports for noble metal nanoparticle catalysts. **J.S. Shumaker-Parry, D. Parker, M. Bornstein, I. Zharov**

4:15 **INOR 272.** Tetrahedrite nanomaterials: Characterization of synthesis and thermoelectric performance. **D.P. Weller, G.E. Kunkel, A.M. Ochs, D.T. Morelli, M.E. Anderson**

4:35 **INOR 273.** Arrays of high-aspect ratio nanostructures for biological applications. **K.L. Martinez**

SECTION D

Boston Convention & Exhibition Center
Room 212

The Halpern Legacy: Mechanism, Catalysis & Organotransition Metal Chemistry

C. R. Landis, *Organizer*

A. S. Goldman, *Organizer, Presiding*

1:30 **INOR 274.** Mechanistic analysis of homogeneous, catalytic C-H bond functionalization processes. **J.F. Hartwig**

2:00 **INOR 275.** C-H and C-C bond cleavage, and catalytic dehydrogenative C-C coupling by iridium-pincer complexes. **W.D. Jones, M. Wilklow-Marnell, W.W. Brennessel**

2:30 **INOR 276.** Mechanistic studies of C-H activation by a superoxonickel complex. **C.G. Riordan**

3:00 **INOR 277.** Reactions of late transition metal complexes with molecular oxygen. **K.I. Goldberg**

3:30 **INOR 278.** Kinetic and mechanistic understanding of oxidative addition and reductive elimination of Pt(II) and Pt(IV) complexes. **E. Bowes, K. Altus, J. Love**

4:00 **INOR 279.** Mechanism of insertion of two isonitriles into M-C bonds of group 4 dialkyl complexes. **J. Chen, N. Yassin, J.R. Norton, M. Rauch**

4:30 **INOR 280.** Promotion of CO insertion into metal-alkyl bonds by nucleophiles: Elucidation of an unanticipated mechanism of the "Halpern insertion reaction". **T. Zhou, S.L. Webb, K. Krogh-Jespersen, A.S. Goldman**

5:00 **INOR 281.** Mechanistic studies of nickel catalyzed cross-coupling and cross-electrophile reactions. **N. Hazari**

SECTION E

Boston Convention & Exhibition Center
Room 211

Pathways for Industrial Chemists Symposium

L. M. Berreau, N. S. Radu, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 **INOR 282.** Is it Candy Land or Sugar Rush? **D. Mason**

2:00 **INOR 283.** An academic chemist in the industrial world. **C.R. Mulzer**

2:25 **INOR 284.** Surfing the whitewash of the metallocene wave. **J.F. Walzer**

2:50 **INOR 285.** Basic research, technology commercialization, business management...and back. **R.A. Fisher**

3:15 Intermission.

3:25 **INOR 286.** Navigating a career in industrial research. **K.G. Moley**

3:50 **INOR 287.** The road less traveled: How being open to unique career pathways makes all the difference. **T.N. Hoerter**

4:15 **INOR 288.** Innovating great Ideas. **H. Nienaber**

4:40 **INOR 289.** Insights into R&D careers in the chemical industry. **A.V. Davis**

5:05 Panel Discussion.

SECTION F

Boston Convention & Exhibition Center
Room 209

Organometallic Chemistry: Applications to Organic Transformations

N. S. Radu, *Organizer*

J. M. O Connor, *Presiding*

1:30 **INOR 290.** Conjugated 1,3-dien-5-yne cycloaromatization triggered by carbon-hydrogen bond activation. **J.M. O Connor, D.M. Hitt, P. Qin, H. Steger, K.K. Baldrige**

1:50 **INOR 291.** Palladium-catalyzed cross-coupling of aryl esters. **A. Dardir, P.R. Melvin, N. Hazari**

2:10 **INOR 292.** Synthesis and reactivity of proazaphosphatane-supported palladium complexes: Elusive intermediates in cross-coupling. **M. Johnson**

2:30 **INOR 293.** Platinum(II)-catalyzed additions to conjugated alkynes. **J.W. Hartman, B. Howard**

2:50 **INOR 294.** Development of an iron-catalyzed Suzuki-Miyaura cross-coupling reaction between alkyl halides and unactivated aryl boronic esters. **M.P. Crockett, C.C. Tyrol, A.S. Wong, J.A. Byers**

3:10 **INOR 295.** Surface Fe(III)-bipyridine catalysts for selective oxidation of styrene. **J. Rondeau, M. Louis, S. Lavallee, G. Li**

3:30 **INOR 296.** Metal coordination to conjugated trienes: Di-, tetra-, and hexapto coordination and associated chemical reactivity. **J.M. O Connor, P. Qin, K.M. Veccharelli, H. Steger, L. Wang, K.K. Baldrige**

3:50 **INOR 297.** Molybdenum imido, tungsten imido, and tungsten oxo alkylidene N-heterocyclic carbene catalysts: Highly active, functional group-tolerant catalysts for olefin metathesis. **M. Buchmeiser**

4:10 **INOR 298.** PNP transition metal catalyzed sustainable chemistry. **M. Nielsen**

4:30 INOR 299. Aerobic C-C and C-O bond formation reactions mediated by high-valent organometallic nickel(III/IV) species. *S.M. Smith, L.M. Mirica*

4:50 INOR 300. Highly enantioselective activated imine hydrogenation by an iron P-NH-P' catalyst. *S.G. Seo, S. Smith, A.J. Lough, R.H. Morris*

5:10 INOR 301. Exploring group 4 metal complexes as catalysts for C-N coupling reactions. *D.R. Manke*

SECTION G

*Boston Convention & Exhibition Center
Room 208*

Chemistry of Materials: Nanomaterials

C. G. Lugmair, *Organizer*

H. V. Kumar, J. Lee, *Presiding*

1:30 INOR 302. Synthesis of shaped intermetallic nanoframes through the low-temperature annealing of core-sandwich-shell nanoparticles. *B.P. Williams, A.P. Young, I. Andoni, M. Golden, C. Tsung*

1:50 INOR 303. Functionalization of boron nitride nanotubes for aerospace applications. *K.K. Smith, N. Redeker, J.C. Marcischak, J.R. Alston, A.J. Guenther, K.B. Ghiasi*

2:10 INOR 304. Etching of transition metal dichalcogenide monolayers into nanoribbon arrays. *Z. Wang, X. Zhang, J. Hatchel, A. Apte, C. Tiwary, R. Vajtai, J. Idrobo, R. Ozturk, A.M. Pulickel*

2:30 INOR 305. Characterization and applications of exfoliated nanosheets at interface. *H.V. Kumar, A. Palmieri, F. Ansari, W.E. Mustain, D.H. Adamson*

2:50 INOR 306. Chirality-related applications of helical nanoparticles with Sub-10-nm helical pitches. *Z. Huang*

3:10 INOR 307. Patterned molybdenum disulfide growth by ion-beam induced hydroxylation of silicon dioxide substrates. *S.F. Bartolucci, J.A. Maurer*

3:30 INOR 308. Studying the effect of electrospinning parameter and aging time on average diameter and fiber homogeneity for pure electrospun SiO₂-TiO₂ nanofibers via response surface methodology. *B. Motealleh, J. Grosseohme, C.J. Cornelius*

3:50 INOR 309. Controlling the growth of thermally treated nanocrystal seeds on the surface of the substrate. *M.A. Mahmoud, M. Abdul-maqueet*

4:10 INOR 310. Synthesis and characterization of colloidal Fe(III)-doped strontium titanate nanocrystals. *M. Abdullah, H. Mansoor, K.R. Kittilstved*

4:30 INOR 311. Reducing-agent-free and template-free synthesis of metal nanostructures in aqueous microdroplets. *J. Lee, D. Samanta, H. Nam, R.N. Zare*

Synthesis & Characterization of Nanomaterials for Sustainable Energy

Sponsored by MPPG, Cosponsored by INOR

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Spin Crossover & Transition Metal Photophysics

Sponsored by PHYS, Cosponsored by INOR

Undergraduate Research Posters

Inorganic Chemistry

Sponsored by CHED, Cosponsored by INOR and SOCED

MONDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Sci-Mix

S. A. Koch, N. S. Radu, *Organizers*

8:00 – 10:00

23, 91, 96, 127, 128, 140-141, 143, 163, 173, 176, 178, 183, 189-190, 293-295. See previous listings.

343, 355, 357-358, 440, 442, 454-455, 475-478, 483, 486-488, 494-495, 499, 507, 509-510, 520-521, 589, 591, 595, 622, 625, 675, 677, 682, 690, 692, 696, 699, 704, 715, 719-720, 724, 727, 729, 734, 737-738, 744-745, 750, 752, 754, 757-758, 762, 766-767, 771. See subsequent listings.

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 252A*

Water Splitting & Solar Fuels: Progress & Challenges to Widespread Utilization

K. Bren, T. D. Krauss, *Organizers, Presiding*

9:00 INOR 312. Eisenberg-inspired smart sensing materials.

A.E. Norton, M.K. Abdolmaleki, C.K. Williams, S. Barzegar, S.D. Taylor, J.A. Krause, W.B. Connick

9:30 INOR 313. How to turn iron into ruthenium. *T. Jiang, Y. Bai, Q. Han, D.B. Mitzi, M.J. Therien*

10:00 INOR 314. Ultrafast structural and electronic changes in monomeric and aggregated chalcogenorhodamine dyes used for solar hydrogen production. *M.F. Mark, Z. Piontkowski, G. Li, M. Kryman, M. Detty, R. Eisenberg, D.W. McCamant*

10:30 Intermission.

10:45 INOR 315. Bimetallic complexes for enhanced sunlight capture: Role of metal-metal distance on excited state properties. *C. Turro, T.J. Whittemore, C. Xue*

11:15 INOR 316. Probing the electronic properties of a new type of partial paddlewheel dirhodium compound: Trans-versus cis-bridges in di-imine formamidinate compounds. *K.R. Dunbar*

11:45 INOR 317. Photochemical and photoelectrochemical H₂ production using systems sensitized by rhodamine-platinum diimine dithiolate dyads. *G. Li, M.F. Mark, D.W. McCamant, R. Eisenberg*

SECTION B

*Boston Convention & Exhibition Center
Room 251*

Recent Advances in the Photochemistry & Photophysics of the P-Block Elements

T. Hudnall, *Organizer*

Z. M. Heiden, *Presiding*

8:30 INOR 318. Synthesis and characterization of 3-aryl-1,3,2-benzoxazaboroles. *D.E. Gross*

8:50 INOR 319. 1,3-Benzoxaphospholes and related compounds as luminescent materials. *J.D. Protasiewicz*

9:10 INOR 320. The synthesis of boron-containing heteroarenes and examination of their photophysical properties. *C. Martin*

9:30 INOR 321. Stimuli responsive difluoroboron β -diketonate dyes in different environments. *C.L. Fraser, F. Wang, M. Zhuang, C.A. DeRosa, T. Butler, C. Kerr, M. Daly, D. Song, N. Manu*

9:50 INOR 322. Utilization of BODIPY dyes to introduce redox and photochemistry into main group complexes. *Z.M. Heiden, I. Kieffer, R. Allen, J. Deobald, B. Thompson, J. Fernandez*

10:10 Intermission.

10:20 INOR 323. Donor-acceptor facilitated diarylethene photoisomerization. *Y. Shi, S. Møllerup, S. Wang*

10:40 INOR 324. Doublet emitters derived from singlet carbenes as potential OLED materials. *T. Hudnall, G. Harmon, C. Barragan, G. Braun, R.N. Arias*

11:00 INOR 325. Electron-deficient arylboranes as building blocks for optoelectronic materials. *F. Jaekle*

11:20 INOR 326. Triarylborane π -electron systems with intramolecular charge-transfer transitions. *C. Zhao*

SECTION C

*Boston Convention & Exhibition Center
Room 213*

Inorganic Nanoscience Award Symposium

Financially supported by University of South Carolina NanoCenter

B. M. Cossairt, *Organizer*

B. Cossairt, *Presiding*

8:30 Introductory Remarks.

8:35 INOR 327. Colloidal quantum wells for energy manipulations on fast timescales. *R.D. Schaller*

9:05 INOR 328. Novel three-dimensional and low-dimensional metal halide perovskites: from light emission to hard radiation detection. *M. Kovalenko, O. Nazarenko*

9:35 INOR 329. Synthesis of light-emitting perovskite nanocrystals and their application in optoelectronic devices. *A. Rogach*

10:05 Intermission.

10:20 INOR 330. Valence and hybridization in artificial atoms: Controlling coupling and superstructure through shape directed nanocrystal assembly. *C.B. Murray, T. Paik, S. Najmr, M. Zhang, C. Zeng, K.C. Elbert, D. Jishkariani, C.R. Kagan, Y. Wu*

10:50 INOR 331. Building devices from colloidal semiconductor nanocrystal assemblies. *C.R. Kagan*

11:20 INOR 332. Manufacturing by self-organization. *N. Kotov*

11:50 INOR 333. Engineering of nanoparticle surface for self-assembly and catalysis. *E. Shevchenko*

SECTION D

*Boston Convention & Exhibition Center
Room 212*

The Halpern Legacy: Mechanism, Catalysis & Organotransition Metal Chemistry

A. S. Goldman, *Organizer*

C. R. Landis, *Organizer, Presiding*

8:30 INOR 334. Organoboron-modified cyanometalates for use in nonaqueous redox flow batteries. *H.B. Gray, B.J. McNicholas, E. Despagne-Ayoub*

9:00 INOR 335. Proton-coupled electron transfer activation of a tungsten hydride complex. *J.L. Dempsey, T. Huang*

9:30 INOR 336. Activation of hydrogen and the photogeneration of hydrogen: How Jack's mechanistic thinking informed artificial photosynthesis. *R. Eisenberg*

10:00 INOR 337. Making and breaking iron hydride bonds. *R. Bullock, D.E. Prokopchuk, G.M. Chambers, E.D. Walter, E.S. Wiedner*

10:30 INOR 338. Surface science meets homogeneous catalysis. Surfaces as ligands and activators. *T.J. Marks*

11:00 INOR 339. Self-assembled multinuclear catalysts for the copolymerization of ethylene and polar vinyl monomers. *R.F. Jordan*

11:30 INOR 340. Mechanistic studies of ethylene/polar vinyl monomer copolymerizations using well-defined Ni(II) and Pd(II) complexes. *M. Brookhart*

SECTION E

*Boston Convention & Exhibition Center
Room 211*

Organometallic Chemistry: New Ligand Platforms

N. S. Radu, *Organizer*

D. A. Laviska, L. Tahsini, *Presiding*

8:30 INOR 341. Adding planar handle to a carbon bowl: Structure, aromaticity and reduction chemistry of naphthocorannulene. *Z. Zhou, S.N. Spisak, A.Y. Rogachev, Z. Wei, M.A. Petrukhina*

8:50 INOR 342. Influence of BODIPY dye containing ligand scaffolds on metal complex reactivity. *Z.M. Heiden, N.R. Treich, B. Thompson*

9:10 INOR 343. Pursuing two electron chemistry with first-row transition metals using a biologically inspired redox-active ligand. *I. Huerfano, M. Pink, C. Chen, K.G. Caulton*

9:30 INOR 344. New sulfonated CNN-pincer ligands for Pt-CH₃ bond making and breaking: reactivity trend. *J. Ruan, P.Y. Zavalij, A.N. Vedernikov*

9:50 INOR 345. Tales of two isomers: Probing the mechanism of C-H addition to ¹⁸O-PCPIr by comparing the products of reactions with naphthalene and azulene. *D.A. Laviska, K.A. Grice, T.J. Emge, A.S. Goldman*

10:10 INOR 346. Bond activation with PBP pincer complexes of group 9 metals. *O. Ozerov, Y. Cao, W. Shih*

10:30 INOR 347. Dihydrogen activation on a monovalent cobalt center supported by PNP ligands. *J. Choi, Y. Lee*

10:50 INOR 348. Redox-active behavior of a PPP ligand with a cobalt center. *S. Kim, Y. Lee*

11:10 INOR 349. P-P bond employed in metal-ligand cooperation as an active 1-electron reservoir. *Y. Kim, Y. Lee*

11:30 INOR 350. Monochelating β -diketonate ligands. *A.S. Crossman, S.M. Krajewski, M.P. Marshak*

11:50 INOR 351. Electronic and structural modulation of pincer bis(N-heterocyclic carbon) copper complexes: Application in strong bonds activation and catalysis. *L. Tahsini, R. Latifi, D. Domyati, J. Minnick*

12:10 INOR 352. Iron compounds incorporating pyrrole-based pincer ligands: Reactivity and applications in catalysis. *C.V. Thompson, Z.J. Tonzetic*

SECTION F

*Boston Convention & Exhibition Center
Room 209*

Inorganic Spectroscopy

C. Popescu, *Organizer*

M. George, *Presiding*

8:30 INOR 353. Time-resolved IR and XAFS studies in organometallic photochemistry: Alkane and noble gas complexes and solvation. *M. George*

8:50 INOR 354. Virtual error bars for property predictions in computational inorganic spectroscopy. *J. Proppé, M. Reiher*

9:10 INOR 355. Spectroscopic chameleons – speciation and vibrational characterization of aluminate and its dimeric analogues using ab initio molecular dynamics. *M. Pourreau, M. Dembowski, S.B. Clark, J.G. Reynolds, K.M. Rosso, G.K. Schenter, C. Pearce, A.E. Clark*

INOR

- 9:30 INOR 356.** Characterizing the effect of ligand tail group over the electronic structure of gold thiolate "staples". *A. Cirri, H. Morales, C. Kmietek, C.J. Johnson*
- 9:50 INOR 357.** ²⁰⁹Pb NMR of ferroelectric perovskite lead germanate at and below the paraelectric phase transition. *C.E. Avalos, B. Walder, J. Viger-Gravel, L. Emsley*
- 10:10 INOR 358.** Bridge-mediated intramolecular electron transfer in opposite directions. *E. Piechota, L. Troian-Gautier, R. Sampaio, K. Hu, M.K. Brennaman, C.P. Berlinguette, G.J. Meyer*
- 10:30** Intermission.

- 10:35 INOR 359.** Elemental quantification of a standard nanocarbon material subjected to alkaline oxidation. *F.F. Simoes, N. Batra, P. Costa*
- 10:55 INOR 360.** Magneto-phonon interactions in single-molecule magnets by far-IR and Raman with magnetic field. *D.H. Moseley, Z. Xue, S. Stavretis, K. Thirunavukkuarasu, Z. Lu, M. Ozerov, D. Smirnov*

- 11:15 INOR 361.** New cyanide fluorescence sensors based on fluorescein and aza-BODIPY for selective detection in aqueous media and living cells. *N. Wanichacheva, P. Piyanuch, Y. Tachapermpoon, P. Sinthuprasert*

- 11:35 INOR 362.** Probing ion coordination and energy exchange in chelate complexes with ultrafast vibrational spectroscopy. *S.C. Edington, C. Baiz*

SECTION G

Boston Convention & Exhibition Center
Room 208

Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, *Organizer*
J. Dou, *Presiding*

- 8:30 INOR 363.** Flexible metal-organic frameworks for gas separation: A mechanistic investigation. *W. Zhou*

- 8:50 INOR 364.** Investigation of gas adsorption in metal-organic framework materials using neutron diffraction. *H. Wu*

- 9:10 INOR 365.** Tubular shape metal-organic framework for controlled drug release. *Q. Wang, H. Zhou*

- 9:30 INOR 366.** Mechanism of rapid NH₃ adsorption by Prussian blue analogues. *S. Manaksetharn, A. Takahashi, T. Nakamura, T. Kawamoto*

- 9:50 INOR 367.** Fabrication of free-standing COF membranes for separation application. *Z. Wang, Y. Chen, Z. Zhang*

- 10:10 INOR 368.** Cooperative adsorption of carbon disulfide in diamine-appended metal-organic frameworks. *C. McGuirk*

- 10:30** Intermission.

- 10:45 INOR 369.** Recent advances in porous liquids. *S. James*

- 11:05 INOR 370.** Role of guest-host and guest-guest interactions in selective gas adsorption in MOF materials: Theoretical aspects. *R. Belosludov*

- 11:25 INOR 371.** Carbon dioxide detection with 2D conductive metal-organic frameworks. *J. Dou*

- 11:45 INOR 372.** Chemical warfare agent simulatant interactions of Zr-MOFs and the effects of battlefield contaminants on CWA uptake: From fundamental studies to applied research. *C.H. Sharp, T. Grissom, D.M. Driscoll, P. Usov, A. Ebrahim, D. Troya, A. Frenkel, A.J. Morris, J.R. Morris*

- 12:05 INOR 373.** Copper (II) doped zeolitic imidazolate framework-8 (Cu/ZIF-8) as a pH responsive drug carrier: Co-enhancement of bioavailability and activity of curcumin in aqueous media. *T. Dutta, D. Bagchi, S. Pal*

Mechanisms of Binding, Transport & Biotransformation of Toxic Metals

Sponsored by TOXI, Cosponsored by INOR

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Photocatalysis & Photovoltaics

Sponsored by PHYS, Cosponsored by INOR

TUESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 252A

Water Splitting & Solar Fuels: Progress & Challenges to Widespread Utilization

K. Bren, T. D. Krauss, *Organizers*
K. E. Knowles, D. W. McCamant, *Presiding*

- 1:30 INOR 374.** Structure/function analysis of a series of bimetallic, hydrogenase-inspired, HER electrocatalysts. *S. Ding, P. Ghosh, M.B. Hall, M.Y. Darensbourg*

- 2:00 INOR 375.** Heteroleptic catalyst design for proton reduction. *T. McCormick*

- 2:30 INOR 376.** Catalyst sensitized metal oxides for photocatalytic hydrogen generation. *W.R. McNamara*

- 3:00 INOR 377.** Approaches to sustainable energy based on pincer complexes capable of metal-ligand cooperation. *D. Milstein*

- 3:30** Intermission.

- 3:45 INOR 378.** Hydrogen storage and release with organic molecules: Heterolytic C-H and N-H/O-H activation. *W.D. Jones, S. Chakraborty, R. Xu, J. Yuwen, S.M. Bellows, M. Wilklow-Marnell*

- 4:15 INOR 379.** Noble-metal-free catalysts for hydrogen production and water oxidation: from molecular systems to nanomaterials. *D. Jiang, Z. Sun, L. Zhang, P. Du*

- 4:45 INOR 380.** Efficient photocatalytic and photoelectrochemical generation of hydrogen in noble-metal-free systems. *H. Lv, R. Eisenberg*

- 5:15** Concluding Remarks.

SECTION B

Boston Convention & Exhibition Center
Room 251

Recent Advances in the Photochemistry & Photophysics of the P-Block Elements

T. Hudnall, *Organizer*

D. S. Seferos, *Presiding*

- 1:50 INOR 381.** Tunable optical properties and electrochemistry of ladder-type conjugated molecules bridged by dynamic B–N coordination. *L. Fang, C. Zhu, A. Mu*

- 2:10 INOR 382.** Polymeric phosphorescent materials based on tellurium and bismuth. *E. Rivard, S. Parke, Y. Tsuchiya, E. Hupf*

- 2:30 INOR 383.** A trip down the group 16. *D.S. Seferos*

- 2:50 INOR 384.** Phosphorus-containing fluorophores for bio-imaging. *S. Yamaguchi*

- 3:10** Intermission.

- 3:20 INOR 385.** The enduring utility of azobenzene as a photocontrol unit in hybrid macromolecular systems. *W.J. Brittain, S.K. Rastogi, S. Zauscher*

- 3:40 INOR 386.** Modulating the electronic structure of ligating groups using photochromic molecules: An experimental and theoretical foray. *M.C. Andrews, A.F. Cozzolino*

- 4:00 INOR 387.** Ultrafast investigations of photoinduced electron transfer and bond formation in organic/inorganic hybrid materials. *A.E. Bragg*

- 4:20 INOR 388.** Redefining melanin starting with eumelanin-inspired optical materials. *T.L. Nelson*

SECTION C

Boston Convention & Exhibition Center
Room 213

Bioinorganic Chemistry: Proteins & Enzymes & Model Systems

Emerging Leader in Bioinorganic Chemistry Award Presentation

S. A. Koch, *Organizer*

B. T. Donovan-Merkert, M. D. Liptak, *Presiding*

- 1:30** Introductory Remarks.

- 1:35 INOR 389.** Investigations into denitrification with bio-inspired iron complexes. *A.R. Fout, T.J. Miller*

- 2:05 INOR 390.** Murine calprotectin sequesters Mn(II) at a hexahistidine site. *R.C. Hadley, D. Gagnon, R.D. Britt, E.M. Nolan*

- 2:25 INOR 391.** Concentration-dependent binding behavior of CdSe quantum dot on SH3 domain. *D. Bell, S. Kang, R. Zhou*

- 2:45 INOR 392.** Binding site for coenzyme A revealed in the structure of pyruvate:ferredoxin oxidoreductase from *Moorella thermoacetica*. *P. Chen, H. Aman, M. Can, S.W. Ragsdale, C.L. Drennan*

- 3:05 INOR 393.** Mimicking class Ib Mn₂-ribonucleotide reductase: Mn^{II} complexes and their reaction with superoxide. *A.R. McDonald*

- 3:25** Intermission.

- 3:35 INOR 394.** Targeting Fe-S protein to fight neglected tropical diseases. *P.R. Feliciano, C.L. Drennan, M.C. Nonato*

- 3:55 INOR 395.** Metalloprotein design using genetic code expansion. *J. Wang*

- 4:15 INOR 396.** Spectroscopic evidence for electronic control of heme hydroxylation by *Staphylococcus aureus* IsdG. *M.D. Liptak*

- 4:35 INOR 397.** Characterization of protein-protein interactions in 3-ketosteroid-9 α -hydroxylase necessary for protein electron transfer. *S.R. Soltau*

- 4:55 INOR 398.** Elucidating the role of substrate positioning in non-heme Fe(II) and alpha-ketoglutarate dependent halogenase SyrB2: A computational study. *R. Mehmood, H. Qi, H.J. Kulik*

- 5:15 INOR 399.** Syntheses and characterization of cobalt(II) SNS pincer model complexes for liver alcohol dehydrogenase. *J.R. Miecznikowski, J.P. Jasinski, M. Kaur, M.A. Lynn*

SECTION D

Boston Convention & Exhibition Center
Room 212

The Halpern Legacy: Mechanism, Catalysis & Organotransition Metal Chemistry

C. R. Landis, *Organizer*

A. S. Goldman, *Organizer, Presiding*

- 1:30 INOR 400.** Mechanism driven catalyst development. *R.H. Grubbs*

- 2:00 INOR 401.** Mechanistic studies of cation-tunable catalytic olefin isomerization. *A.J. Miller, J.B. Smith, M.R. Kita, A.M. Camp, J. Grajeda, H.M. Dodge*

- 2:30 INOR 402.** Asymmetric catalytic hydrogenation of quinolines leading to compounds with high anti-cancer activity and low toxicity. *A. Chan, J. Tang*

- 3:00 INOR 403.** Understanding the mechanism of cobalt-catalyzed asymmetric hydrogenation: Halpern's lessons from rhodium redux? *P.J. Chirik*

- 3:30 INOR 404.** Kinetic investigations into the mechanism of Ti-catalyzed nitrene transfer reactions: What can we learn from the Halpern academic tree? *I. Tonks*

- 4:00 INOR 405.** The synthesis of CO₂-based polycarbonates with functionalities. *D.J. Darensbourg*

- 4:30 INOR 406.** Operando methods, off-cycle species, and rate-controlling pathways in catalytic, enantioselective hydroformylation. *C.R. Landis*

- 5:00 INOR 407.** Designing self-powered nanobots. *A. Sen*

- 5:30** Concluding Remarks.

SECTION E

Boston Convention & Exhibition Center
Room 211

Chemistry of Materials: Nanomaterials

C. G. Lugmair, *Organizer*

G. Nolis, M. Zhou, *Presiding*

- 1:30 INOR 408.** Comprehensive magnetic study of nanostructured mesoporous manganese oxide materials and implications for catalytic behavior. *E. Moharreri, W. Hines, S. Biswas, D. Perry, J. He, D. Murray-Simmons, S.L. Suib*

- 1:50 INOR 409.** Effect of soft template variation on the synthesis, physical and electrochemical properties of manganese oxide nano-materials. *M. Danish, M. Tanyab*

- 2:10 INOR 410.** Nickel boride nanocrystals: promising electrocatalysts for water splitting. *A. Herve, T. Chan Chang, M. Han, B. Lassalle, C. Sanchez, S. Carenco, D. Portehault*

- 2:30 INOR 411.** Size dependent thermal decomposition of prussian blue analogue as precursors for magnetic nanoparticles. *D.A. Hardy, S.E. Parrish, G.F. Strouse*

- 2:50 INOR 412.** Disproof of a surface-ligand thermodynamic effect in the synthesis of Co₃O₄ nanoparticles. *M. Zhou, S. Folkman, M. Nicki, R.G. Finke*

- 3:10 INOR 413.** Colloidal Mn-O phase space as a function of temperature and oxidizing agent. *G. Nolis, J. Cabana*

- 3:30 INOR 414.** Asking big questions in nanocrystal research. *M.P. Campos*

- 3:50 INOR 415.** Prussian blue analogues as a precursor for facile synthesis of iron-cobalt and iron-cobalt carbide catalytic nanoparticles. *C. Dyer, G.F. Strouse*

- 4:10 INOR 416.** Working in stealth mode: Towards the development of biomolecular corona-resistant hydrophilic nanomaterials for biomedical applications. *T. Joshi, A. Nsubuga, K. Zarschler, H. Stephan*

- 4:30 INOR 417.** Design, self-assembly, and switchable wettability in hydrophobic, hydrophilic, and Janus dendritic ligand-gold nanoparticle hybrid materials. *K.C. Elbert, D. Jishkariani, J.D. Lee, Y. Wu, C.B. Murray*

- 4:50 INOR 418.** Target-specific fluorescent gold nanostructures for inhibition of bacterial growth. *K. Chen, S. Tan, T. Chang, J. Kuo, X. Pan, T. Kuo*

- 5:10 INOR 419.** In situ study of the transformation of lead halide nanocrystals into lead halide perovskite nanocrystals using fluorescent microscopy. *B. Yin*

SECTION F

Boston Convention & Exhibition Center
Room 209

Lanthanide & Actinide Chemistry

A. De Bettencourt Dias, *Organizer*

E. Boros, M. T. Dumas, E. V. Govor, D. E. Smiles, *Presiding*

1:30 INOR 420. Investigation of the electronic structure and evaluation of the covalency of cerocene, $(C_8H_8)_2Ce$, using carbon K-edge X-ray absorption spectroscopy. *D.E. Smiles, R.A. Andersen, R.R. Batista, D.L. Clark, J.M. Keith, S.A. Kazimov, R.L. Martin, D.K. Shuh, S.E. Stieber, T. Tylliszczak, S.G. Minasian*

1:50 INOR 421. Luminescent properties of lanthanide complexes with perfluorinated pinacolate and *t*-butoxide ligands. *C.M. Kotyk, J.E. Weber, A.S. Hyre, J. McNeely, J. Montiero, M. Domin, A.L. Rheingold, A. De Bettencourt Dias, L.H. Doerren*

2:10 INOR 422. Mechanism of liquid-liquid solvent extraction of uranyl by tributyl phosphate: A study using vibrational sum frequency generation spectroscopy. *R. Kusaka, M. Watanabe*

2:30 INOR 423. Actinide separation from LiCl-KCl molten salt using sacrificial Gd anode. *P. Bagri, J. Ong, C. Zhang, M.F. Simpson*

2:50 INOR 424. Efficient energy transfer from near-infrared emitting gold nanoparticles to pendant ytterbium(III). *S. Crawford, C.M. Andolina, D. Kaseman, B. Ryoo, A. Smith, K. Johnston, J. Millstone*

3:10 INOR 425. Exploring the synthesis and reductive chemistry of bimetallic rare-earth complexes. *M.T. Dumas, J.W. Ziller, W.J. Evans*

3:30 INOR 426. Understanding and controlling the emission brightness and color of molecular cerium luminophores. *Y. Qiao, D. Sergentu, H. Yin, A. Zabala, T. Cheisson, A. McSkimming, B.C. Manor, P. Carroll, J.M. Anna, J. Autschbach, E.J. Schelter*

3:50 INOR 427. Reactivity of imino-functionalized indoles with rare-earth metal amides and alkyls: Catalysis for isoprene controllable polymerization. *S. Wang*

4:10 INOR 428. Self-illuminated luminescent lanthanides as multimodal imaging probes. *A. Cosby, S. Ahn, E. Boros*

4:30 INOR 429. Exploring aryloxide ligands in the synthesis of complexes of new +2 ions of the rare-earth metals. *S.A. Moehring, J.W. Ziller, W.J. Evans*

4:50 INOR 430. Binding and extraction of trivalent lanthanides by tripodal sulfonamides and pyrazoles: structural, theoretical and spectroscopic studies. *E.V. Govor, A.N. Morozov, T. Jonah, G.A. Flores, A.M. Mebel, R.G. Raptis, K. Kavallieratos*

5:10 INOR 431. Recent advances in f-block metallocenophane chemistry: Development of mono- and multi-lanthanide-[1]ferrocenophane single-molecule magnets. *T. Latendresse, V. Vieru, B. Wilkins, N.S. Bhuvanesh, L. Chibotaru, M. Nippe*

5:30 INOR 432. Lanthanide(III)-binding proteins as sensors for molecular fMRI. *P. Harvey, V. Hsieh, A. Jasanoff*

SECTION G

Boston Convention & Exhibition Center
Room 208

Solid-State Inorganic Chemistry

C. G. Lugmair, V. Poltavets, *Organizers*
C. Thompson, *Presiding*

1:30 INOR 433. Printable thin-film lead zirconate titanate (PZT) deposition using an aerosol deposition printing method. *A.R. Marotta, S. Williams*

1:50 INOR 434. The dawn of the chemistry of quantum materials: Discovery, synthesis, and behavioral insights. *T. McQueen*

2:10 INOR 435. Chemical and electrochemical lithium intercalation in the layered tetrrel pnictides GeAs and SiAs. *J. Mark, K. Woo, K. Kovnir*

2:30 INOR 436. Layered intergrowth compounds for ultralow thermal conductivity. *A. Banik, K. Biswas*

2:50 INOR 437. Deposition of solid-state precursors for cobalt-doped zinc oxide. *A.W. Apblett, T. Reed*

3:10 INOR 438. Investigation of structural and magnetic properties of Gd₂Al compounds (T = Sc, Cr, Co). *G. Agbaworvi*

3:30 INOR 439. Structural and magnetic properties of 4d and 5d double perovskites, SrLaBB'O₆ (B = Mg, Mn, Zn; B' = Ru, Os). *A. Bowser, C. Mauws, M. Rutherford, C. Boyer, C. Wiebe, C. Thompson*

3:50 INOR 440. Interplay between charge density wave behavior and antiferromagnetic order in the intermetallic single crystal system Eu(Gd_{1-x}Al_x). *M. Stavinoha, J. Cooley, S. Minasian, T. McQueen, S. Kauzlarich, C. Huang, E. Morosan*

4:10 INOR 441. Hybrid 2D Dion-Jacobson perovskites and application in solar cells. *L. Mao, W. Ke, L. Pedesseau, Y. Wu, C. Katan, J. Even, M.R. Wasielewski, C. Stoumpos, M.G. Kanatzidis*

4:30 INOR 442. Data-mined ion substitutions in crystals: Reassessment of Goldschmidt's rules of ion substitution. *O.C. Gagne, R.M. Hazen*

TUESDAY EVENING**SECTION A**

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Organometallic Chemistry: Synthesis & Characterization-Late Transition Metals

N. S. Radu, *Organizer*

5:30 – 7:30

INOR 443. Experimental thermodynamic studies of displacement of phosphine ligand with pyridine and acetonitrile in iridium pincer complexes. *S. Haghghi, M. Findlater*

INOR 444. Fundamental studies of high- and low-valent nickel compounds. *J.B. Diccianni, T. Diaio*

INOR 445. Synthesis and reactivity of a rhenium dioxo complex. *A.K. Oanta, T.D. Lahrey, R.G. Bergman, J. Arnold*

INOR 446. Redox communication in bis(PNP) complexes as a function of the connecting bridge. *C. Yu, O. Ozerov*

INOR 447. Carbazole based non-innocent ligand metal complexes: Synthesis, characterization, and redox behavior. *A.M. Lugosan, D. Dickie, M. Zeller, W. Lee*

INOR 448. Synthesis and characterization of new pincer-supported group 9 metal complexes. *M. Hung, O. Ozerov*

INOR 449. Synthesis, characterization, and photophysical properties of cyclometalated N-heterocyclic carbene platinum(II) complexes. *F. Mastrocinque, C.M. Anderson, J. Tanski*

INOR 450. Formation of an iridium benzylidene with azaquinone methide character via alkoxycarbene cleavage. *B. Mueller, Y. Zhang, N. Schley*

INOR 451. Systemic electronic effects of palladium, platinum and other metal-containing phenyl terpy complexes. *H. Pigg, M.D. Wheeler, J. Herring, S.K. Hurst*

INOR 452. Exploiting cyclometalation reactions to yield novel transition metal complexes modeled on structural motifs found in efficient luminescent materials. *D.A. Laviska, S.X. Battaglia, D.L. Gamarró, A.G. Rodriguez*

INOR 453. Catalytic aerobic oxidation of alcohols by copper complexes bearing redox-active ligands with tunable H-bonding groups. *K. Rajabimoghadam, I. Garcia-Bosch*

SECTION B

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Organometallic Chemistry: Applications to Materials & Polymer Science

N. S. Radu, *Organizer*

5:30 – 7:30

INOR 454. B(C₆F₅)₃ activated Mo and W oxo alkylidenes for stereospecific ring-opening metathesis polymerization. *T. Yan, R.R. Schrock*

INOR 455. Bimetallic xylyl-linked multi-functional betadiketimate frameworks and their catalytic activity in ring-opening polymerization (ROP). *X. Dong, J.R. Robinson*

SECTION C

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Nanoscience

B. G. Trewyn, *Organizer*

5:30 – 7:30

INOR 456. Synthesis of early transition metal oxide nanomaterials and their conversion to nitrides. *A.P. Purdy, A. Kastl*

INOR 457. Improved antimicrobial properties of copper and ascorbic acid based nanoparticle systems: Advanced drugs for a post-antibiotic era. *T. Dassanayake Mudiyansele, S. Huang*

INOR 458. Atomic scale observation of phase transformation in Ag₃S nanoparticles. *J. Liu, Y. Wang*

INOR 459. One-step and controllable synthesis of heteroatom-doped graphene nanosheets by mechanochemical ball-milling. *C. Jun-Xiang*

INOR 460. Vapochromic response of heterometallic nanoparticles in the design of chemical sensors. *A.D. Nicholas, F. Barnes, M.A. Sturmer, R.D. Pike, H.H. Patterson*

INOR 461. Molecular functionalization of MoS₂ by a cobalt dithiolene complex. *A. Gupta, F. Mujid, J. Park, M.D. Hopkins*

INOR 462. Robust water soluble gold-carbon nanoparticles as a catalyst for the reduction of 4-nitrophenol. *A.A. Ahmad, S. Panicker, A. Mohamed, A.E. Bruce, M.R. Bruce*

INOR 463. Hydrothermal studies for photophysical properties of hydrochar and biochar materials. *A. Alamgir, S. Begum, A. Pramanik, P.C. Roy*

INOR 464. Towards spin transition composites: Synthesis and analysis of passive/active iron triazole-oxide composites. *A. Blanco, T. Rostamzadeh, L. Spinu, J.B. Wiley*

INOR 465. Palladium nanoparticle-halloysite nanocomposites. Synthesis, characterization and catalytic activity. *J. Hamdi, A. Blanco, J.B. Wiley, M. Trudell*

INOR 466. Fruit based green synthesis of multicolor nanoprobes for tracking breast cancer heterogeneity. *S. Begum, A. Pramanik, P.C. Roy*

INOR 467. Synthesis and characterization of europium-doped cerium oxide nanotubes as drug delivery vector. *A. D'Achille, J.L. Coffey*

INOR 468. Analysis of sonochemical parameters and various ligands effects on $[Zn_2Ag_2In_2]_2$ synthetic mechanism. *S. Yeon, S. Sul, H. Seo, J. Park, J. Jung*

INOR 469. Self-assembled porphyrin monolayers for non-covalent functionalization of monolayer molybdenum disulfide. *A.P. Grorud, F. Mujid, J. Park, M.D. Hopkins*

INOR 470. Synthesis of zirconium or tantalum-doped titanate nanofibers for enhanced bone tissue engineering. *P. Cole, M. Malloy, L. Roeder, Z.R. Tian*

INOR 471. Multifunctional therapeutic nanoparticles for atherosclerosis. *M. Banerjee, B. Sarnar, B. Banik, S. Dhar*

INOR 472. Colloidal synthesis of highly luminescent lithium silicate nanoparticles and their chemical transformation into different crystal structures. *E. Eladgham, T.A. Nakagawara, U. Ozgur, D.O. Demchenko, I.U. Arachchige*

INOR 473. In situ synthesis, photophysical, and catalytic properties of "ligand-less" nanoparticle@FMOF-1 nanostructures formed via liquid phase epitaxy/ripening. *B.L. Kamras, M. Omary*

INOR 474. Tetrafluoroborate surface ligand affects on the plasmonic behavior of copper sulfide nanoparticles. *H.K. Le, Z. Zeng, K. Plass*

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Environmental & Energy-Related Inorganic Chemistry

S. A. Koch, *Organizer*

5:30 – 7:30

INOR 475. Evaluation of gas formation and crossover in high voltage lithium-ion batteries with Ni-rich NMC cathodes. *T. Christensen, R. Ruther, C. Mao*

INOR 476. Triplet energy transfer dynamics at the bilayer-solvent interface for application in molecular upconversion DSSCs. *T. Dilbeck, K. Hanson*

INOR 477. Investigation of Lewis acid/metalloocene mediated chemical O₂ reduction. *M.J. Lueckheide, J.R. Robinson*

INOR 478. Bronsted- and Lewis-acid effects on copper-catalyzed chemical O₂ reduction. *K.H. Pham, M.J. Lueckheide, J.R. Robinson*

INOR 479. Host-guest encapsulation of alkali metals by Al-pdc-AA cages. *A. May, P. Usov, A.J. Morris*

INOR 480. Examining the effect of air-sea gas exchange on dissolved oxygen concentrations at varied physical conditions in a wind-wave tank. *H.R. Alt, C. Krevanko, E. Lambert, A.W. Smith, B.K. Haus, R.H. Stanley*

INOR 481. Neurotoxin degradation and phosphorus recovery by molybdenum(VI) complexes through heterogeneous and homogeneous catalysis. *L.Y. Kuo*

INOR 482. Lewis-acid promoted homogeneous electrocatalytic oxygen reduction mediated by molecular Cu-complexes. *N.P. Vargo*

INOR 483. Water oxidation catalysis by manganese oxide/cobalt oxide@iron oxide core-shell nanocomposites. *L. Achola, A. Ghebrehiwet, S.L. Suib*

INOR 484. Ligand functionalization to tune water uptake and stability in metal-organic frameworks. *A. Kuznicki, E.D. Bloch, C. Charles*

INOR 485. Tracking reduced nitrogen from electrocatalytic reduction of nitrate by a Cu-based precatalyst. *E.M. Laaker, J.K. Elinburg, R.W. Fulweiler, L.H. Doerren*

INOR 486. Fast electron-ion transport in inorganic ionic matrices. *A.C. Marschillok, E.S. Takeuchi, K.J. Takeuchi*

INOR

INOR 487. Synthesis and characterization of deep eutectic solvents (DES) and their application in CO₂ capture and solubilization. *K. Kazali, S.E. Ahmed, M.M. Abu Siba, H.I. Nimir*

INOR 488. Metal-modified zirconium phosphate monolayers for the oxygen evolution reaction. *M. Ramos-Garcés, J. Sanchez, T.F. Jaramillo, J.L. Colon*

INOR 489. Synthesis, structural characterization, and growth mechanism of Li_{1-x}V₂O₅ submicron fibers for lithium-ion batteries. *S. Yue, J. Li, L. Wang, B. Haider, E. Stach, S.S. Wang*

SECTION E

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Electrochemistry

N. S. Radu, Organizer

5:30 – 7:30

INOR 490. Composition-dependent electrocatalytic activity of cobalt sulfides for triiodide reduction in dye-sensitized solar cells. *M. Kim, J.H. Bang*

INOR 491. Preparation and characterization of Pt-based alloy nanoparticles with chain-like morphologies for electrocatalytic oxygen reduction reaction. *Z. Kong, Z. Wu, S. Shan, S. Yan, J. Luo, G. Yu, C. Zhong*

INOR 492. Aluminum doped vanadium oxide films: Hydrothermal synthesis and photoelectrochemical properties. *S. Alhadmou, A.A. Alothman*

INOR 493. New electrochemically active metallocene-based compounds for redox flow battery applications. *B. Schrage, Z. Zhao, C.J. Ziegler, A. Boika*

INOR 494. An electrochemical investigation of the unique redox properties of single atom bridged polyoxometalates using gadolinium as the bridge. *J.F. Kirby, I. Tariq*

INOR 495. Heterogeneous hydrogen evolution with novel nickel ATSM catalysts and the effect of surface morphology. *N.S. Vishnasky, A. Gupta, M.S. Mashuta, R.M. Buchanan, G. Gupta, C.A. Grapperhaus*

SECTION F

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Coordination Chemistry: Synthesis & Characterization

A. Larsen, Organizer

5:30 – 7:30

INOR 496. Solvent orientation in the crystal lattice producing distinct magnetic dynamics in two binuclear Dy(III) polymorphs with a polydentate Schiff base ligand. *Z. Jiang*

INOR 497. Physical and chemical properties of iron 2-oximinocarboxylate complexes. *W. Alamier, A.W. Apblett*

INOR 498. Platinum-based metalloligand/metal arrangement, non-innocence and mixed valency. *A.A. Ansari, G.K. Lahiri, W. Kaim*

INOR 499. Di, tri and tetranuclear ruthenium complexes of a heterocyclic and quinonoid bridging ligand: Valence and spin alternatives for the metal/Ligand/ metal arrangement, non-innocence and mixed valency. *A.A. Ansari, G.K. Lahiri, W. Kaim*

INOR 500. Synthesis and characterization of ruthenium-hydrazine complexes. *A. Peloquin, A. Holland, S.T. Iacono, K.B. Ghiassi*

INOR 501. Synthesis of lanthanide molybdates via reaction of molybdenum(VI) oxide with aqueous acetate salts. *K. Alrashidi*

INOR 502. Palladium complexes featuring a sterically-demanding salen ligand. *B. Wile, M.C. Nathaniel, B.M. Nicole*

INOR 503. Facile and efficient synthesis of thiosemicarbazone derivatives with functionalized pendant amines. *A.E. Davis, C.A. Calvary, C.A. Grapperhaus, R.M. Buchanan*

INOR 504. Synthesis and characterization of new rhenium-oxo complexes supported by bidentate phosphine ligands. *M.L. Parr, N. Mizgier, A. Thibodeaux, A. Cocco, L. Tran, M. Lu*

INOR 505. Sensing of cobalt by a simple dipodal Schiff's base. *S. Alamgir, M. Rhaman, A. Hossain*

INOR 506. Aluminum complexes of nitrogen-based redox-active ligands. *L. Heinzerling, J. Raab, C.R. Graves*

INOR 507. New Mn/Ln (Ln = Gd, Tb, Dy, Ho) single-molecule magnet families from the introduction of bulky groups into 2-(hydroxymethyl)pyridine. *L. Pham, K.A. Abboud, W. Wernsdorfer, G. Christou*

INOR 508. Polypyridyl complexes of uracil derivatives attached to 2,2'-pyridyl. *H. Nguyen, C. Moore, D. Rillema*

INOR 509. Redox chemistry of pyridine bispyrrolide iron complexes. *B.M. Hakey, C. Milsman*

INOR 510. Synthesis and electrochemical characterization of NiATSM derivatives with pendant hindered amine bases. *C.A. Calvary, O. Hietsoi, C.A. Grapperhaus, R.M. Buchanan, M.S. Mashuta*

INOR 511. Ring-size and steric effects on the coordination chemistry of guanidine ligands with late transition metals. *B.L. Taylor, N.A. Piro*

INOR 512. Exploration of group 14 monometallic and bimetallic systems. *M. Barrientos, H. Harman*

INOR 513. Ruthenium polypyridyl complexes with mercaptopurine: Synthesis, characterization and cytotoxicity evaluation. *A.O. Rajee, J.A. Obaleye, K.R. Dunbar*

INOR 514. Intramolecular hydrogen exchange and topological rearrangements at rhenium(V) pentahydride complexes supported by two triphenyl phosphine ligands and an amine. *G.A. Moehring, D. Streisel, A. Petrou, A. Scorzelli, B. Macalush*

INOR 515. Understanding the kinetics and thermodynamics of ligand exchange in porous molecular cages. *G.A. Taggart*

INOR 516. Expanding the synthetic scope of heterobimetallic lantern complexes. *L.A. Zuckerman, S.A. Beach, L.H. Doerrer*

INOR 517. Characterization and reactivity of bimetallic copper(I) complexes towards small molecule activation. *M. Bezpalko, W.S. Kassel*

INOR 518. Exerting extreme π-acidity of organic isocyanide ligands: A nonfluorinated rival of C₆F₅NC has been discovered. *Z.A. Wood, M.D. Hart, J.J. Meyers, N. Gerasimchuk, M.V. Barybin*

INOR 519. Coordination chemistry of late first-row transition and lanthanide metal complexes with tris(2-pyridyl) phosphine, tris[2-(6-bromopyridyl)]phosphine and associated Au(I)Cl complexes. *L. Warring*

INOR 520. Activity of several ruthenium tris(2-pyridyl) phosphine complexes as water oxidation catalysts. *L. Wilkinson, W.S. Kassel, M. Bezpalko*

INOR 521. Transition metal complexes bearing ligands with secondary sphere hydrogen bonds for small molecule reduction. *J. Wilson, N.K. Szymczak*

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 252A*

Chemistry of Materials: Nanomaterials

C. G. Lugmair, Organizer

G. Dey, Y. Fang, Presiding

8:30 INOR 522. Mechanistic study of drug adsorption to biodegradable hybrid nanoscaffolds using chemical modeling. *G. Dey*

8:50 INOR 523. Magnetic nanocomposite materials for the archeological waterlogged wood conservation. *E. Aluri, E. Shofield, S. Carr*

9:10 INOR 524. Nanoparticle-based platforms for glucose detection and interference from sucralose. *B. Yust, N. Parenti*

9:30 INOR 525. Manipulating subcellular distribution of porous coordination cages for cancer nanotherapy. *Y. Fang, H. Zhou*

9:50 INOR 526. Light activated nano-antibiotic for biofilm treatment. *D. Bagchi, S. Pal*

10:10 INOR 527. Environment-friendly alkalis bismuth perovskite nanocrystals with high photo-luminescence quantum yield and high stability. *J. Xie, J. Song, W. Lu, W. Chen*

10:30 INOR 528. Vapor phase growth of ZnO nanocolumns and the effect of Cu doping on their photoelectric properties, morphology, and structure. *T.M. Trad, H. Rivera-Marrero, N. Ohannesian*

11:10 INOR 529. Designing ultrastable single quantum emitters for telecom wavelengths. *A. Singh, S. Krishnamurthy, Z. Hu, A. Singh, Y. Kim, M. Sykora, H. Htoon, J.A. Hollingsworth*

11:30 INOR 530. Low frequency Raman spectroscopy of layered organometal halide perovskites. *N. Dahod, W. Paritmongkol, A. Stollmann, W.A. Tisdale*

11:50 INOR 531. Site-selective solder deposition on multi-segment nanowires for nanowire joining and bonding. *E.S. Fratto, J. Wang, H. Sun, Z. Gu*

12:10 INOR 532. Exactly doped semiconductor quantum dots prepared by the cluster seed method. *A. Hassan, X. Zhang, C. Liu, P. Snee*

SECTION B

*Boston Convention & Exhibition Center
Room 251*

Chemistry of Materials: Synthesis & Properties

C. G. Lugmair, Organizer

J. P. Dombrowski, A. E. Norton, Presiding

8:30 INOR 533. High nuclearity molecular Pb/Mn oxo clusters: Syntheses, structures and magnetic properties. *E.B. Earlywine, K.A. Abboud, G. Christou*

8:50 INOR 534. Silsesquioxane cages: Syntheses and applications. *V. Ervithayasuporn*

9:10 INOR 535. Gold carbene complexes as precursors for gold incorporation in small or medium pore zeolites via metal entrapment during zeolite synthesis. *J.P. Dombrowski, M. Kung, H. Kung*

9:30 INOR 536. Harnessing Fe (III) carboxylate photochemistry for surface modification on materials. *A.E. Norton, J. Karunaratna, G. Giammanco, A. Ostrowski*

9:50 INOR 537. In-situ grown metal oxide nanostructured catalysts on substrate for efficient CO oxidation. *B. Liu*

10:10 Intermission.

10:25 INOR 538. Electrochemical intercalation into layered cluster materials. *J.C. Russell, X. Roy*

10:45 INOR 539. Synthesis and investigation into the formation mechanism of Ni-Fe layered double hydroxides for oxygen evolution reaction. *S. Jaskaniec, C. Hobbs, J. Coelho, D. Tyndall, V. Nicolosi*

11:05 INOR 540. Metal hopping and reversible crystal transformation in a cobalt citrate SMM molecular solid. *M. Tomas, J. Campo, L.R. Falvello, E. Forcán-Vázquez, I. Mayoral, F. Palacio, C. Sáenz de Pipaón*

SECTION C

*Boston Convention & Exhibition Center
Room 213*

Coordination Chemistry: Characterization & Applications

A. Larsen, Organizer

J. A. Phillips, J. J. Wilson, Presiding

8:30 INOR 541. Coordination chemistry to protect against reperfusion injury. *J.J. Wilson, J.J. Woods, S.R. Nathan, J. Spivey*

8:50 INOR 542. Reduction of high oxidation state nitrogen oxyanions using a pre-reduced redox active pincer ligand. *D.M. Beagan, N. Maculis, M. Pink, K.G. Caulton*

9:10 INOR 543. Mediation of a disrupted nitrogen cycle: rational ligand design to promote nitrate and nitrite reduction. *A. Cabelof, C. Chen, M. Pink, K.G. Caulton*

9:30 INOR 544. Structure, spectroscopy, and reactivity studies of a transient Ru(III) azide. *S.V. Park, J.F. Berry*

9:50 INOR 545. Ray-Dutt and Bailar twists in Fe(II)-tris(2,2'-bipyridine): Spin states, sterics, and Fe-N bond strengths. *D. Ashley, E. Jakubikova*

10:10 Intermission.

10:20 INOR 546. Structural and energetic properties of H₃N-MX₃R complexes: Computations and low-temperature IR spectra. *J.A. Phillips*

10:40 INOR 547. Halogenation affects driving forces, reorganization energies and "rocking" motions in strained [Fe(tpy)]²⁺ complexes. *D. Ashley, C. Liu, J. González-Delgado, E. Jakubikova*

11:00 INOR 548. New chelators capable of supporting multiple Mn oxidation states for biochemically responsive MRI contrast agent. *H. Wang, P. Caravan, E. Gale*

11:20 INOR 549. Silver(I) complexes of 2,2'-bipyridine and 1,10-phenanthroline: Synthesis, spectroscopic characterization and antimicrobial properties. *M. Monim-Ul-Mehboob*

11:40 INOR 550. Phosphorescent chromophores as sensors of metal ions and oxygen. *P. Ceroni, M. Villa, M. Gingras*

SECTION D

*Boston Convention & Exhibition Center
Room 212*

Environmental & Energy-Related Inorganic Chemistry

S. A. Koch, Organizer

A. W. Apblett, P. Deria, Presiding

8:30 INOR 551. Super large Stokes shift and "turn-on" fluorescent probe for Cu²⁺ detection. *N. Kaewnak, A. Petdum, J. Sirirak, A. Charoenpanich, W. Panchan, S. Sahasithiwat, T. Sooksimuang, N. Wanichacheva*

8:50 INOR 552. 3D MnO₂ hollow microspheres as ozonation catalysts for elimination of endocrine disrupting compounds in water purification. *C. He, Q. Zhang, W. Yang, H. Xu*

9:10 INOR 553. Framework-topology controls excitonic properties in MOFs. *P. Deria, J. Yu, A. V. Wyk, J. Park*

9:30 INOR 554. Structural analog approach to decode a heterometallic structure. *H. Han, Z. Wei, A.M. Abakumov, E.V. Dikarev*

9:50 INOR 555. Dye-sensitized hydrobromic acid splitting for solar fuels production. *M.D. Brady, L. Troian-Gautier, R. Sampaio, G.J. Meyer*

10:10 INOR 556. P-type gallium phosphide particles as hydrogen evolution photocatalysts. *Z. Zhao, F.E. Osterloh, E. Willard*

10:30 Intermission.

10:40 INOR 557. Computational modeling of earth-abundant electrocatalysts featuring macrocyclic redox-active ligands for CO₂-to-CO conversion. *J. Panetier, K. McCardle, X. Su, J.W. Jurss*

11:00 INOR 558. Nontraditional porphyrinoid scaffolds as efficient electrocatalysts for the oxygen reduction reaction. *J. Rosenthal*

11:20 INOR 559. Approaching the elusive N₂ reduction to N₂H₂: a strategy involving intramolecular H-bonding and PCET. *E. Gardner, S. Zhang, C.R. Cobb, S.C. Marguet, H.S. Shafaat, T.H. Warren*

11:40 INOR 560. Bioinspired heterogeneous electrocatalysts for CO₂ reduction: Energy-efficient carbon-carbon coupling rivaling enzymes. *G.C. Dismukes, K.U. Calvino, A.B. Laursen*

12:00 INOR 561. Co-sensitized porphyrin system for high-performance solar cells with TOF-SIMS analysis. *J. Li*

12:20 INOR 562. Coordination polymers for sorption of arsenic and phosphate from contaminated waters. *A.W. Apblett, D. Corter, A.P. Piquette*

SECTION E

Boston Convention & Exhibition Center

Room 211

Bioinorganic Chemistry: DNA, RNA & Inorganic Drugs

S. A. Koch, *Organizer*

A. M. Angeles Boza, L. A. Yatsunyk, *Presiding*

8:30 INOR 563. Organometallic iridium(III) complexes: efficient cytotoxic and selective towards colorectal cancers. *R. Lord, M. Zegke, I. Henderson, P. McGowan*

8:50 INOR 564. At the intersection of host defense peptides and metal ions. *A.M. Angeles Boza*

9:10 INOR 565. Ruthenium(III) and rhodium(III) dihalide complexes: Showing high potency and cancer cell selectivity for *trans* isomers. *M. Zegke, A. Basri, P. McGowan, R. Lord*

9:30 INOR 566. The role of Zn(II) in stabilizing WRKY and treble clef DNA binding domains. *M. Cukan, D. Wilcox*

9:50 INOR 567. Development of electrochemiluminescent platforms to monitor biomolecule binding phenomena. *A. Marangoz, W. Wu, J. Burch, C.L. Grimes, J. Rosenthal*

10:10 INOR 568. Structural studies of CAGAGG repeats from difficult-to-replicate regions of the mammalian genome. *L.A. Yatsunyk, B. Powell, D. Jordan, Y. Chen, J.B. Chaires, W. Dean, E. Brown*

10:30 Intermission.

10:40 INOR 569. Synthesis, spectroscopic characterization, pharmacological investigation and DFT study of ferrocene-modified acyl ureas. *F. Asghar, A. Badshah, I.S. Butcher*

11:00 INOR 570. Selective targeting of microtubules in cultured human cells with simple ruthenium(II) polypyridyl complexes: A new class of microtubule stabilizing agents with potential therapeutic applications. *F.M. MacDonnell, N. Alatrash, F. Issa, A.S. Dayoub*

11:20 INOR 571. The change of acidity and basicity of damaged DNA base pairs, a DFT study. *A. Fattahi*

11:40 INOR 572. Ruthenium(II) polypyridyl/N-heterocyclic carbene complexes as cytotoxic pro-drugs. *J.P. Selegue, R. Ryan, J. Mahmoud, E.C. Glazer, D.K. Heidary, K.C. Stevens, S. Parkin*

12:00 INOR 573. Nontraditional tetrapyrrole complexes as efficient photochemotherapeutic agents with remarkably high phototoxicity indices. *J. Rosenthal, A.M. Potocny, M. Martin*

12:20 INOR 574. Enzyme-responsive biosensors for the detection of cancer biomarkers. *M. Burnett, S. Rodich, K.N. Green*

SECTION F

Boston Convention & Exhibition Center

Room 209

Nanoscience

B. G. Trewyn, *Organizer*

T. A. Dreier, P. Kunal, *Presiding*

8:30 INOR 575. High-yield production of MoS₂ and WS₂ quantum sheets from their bulk materials. *Y. Zhang*

8:50 INOR 576. Production of magnetic nanoparticle arrays on surfaces from solution using top-down patterning and bottom-up biotemplating for future nanodevices. *R. Jarrald, A. Rawlings, M. Tanaka, M. Okochi, G.J. Leggett, S. Staniland*

9:10 INOR 577. Precise placement of nanoparticles in polymer composites via pre-coordination. *T.A. Dreier, B. Ringsstrand, M.A. Firestone*

9:30 INOR 578. Nd³⁺ activated KY₃F₁₀ nanoparticles for high sensitivity nanothermometry. *G. Lucchini, P. Cortelletti, M. Pellegrini, L. Rolla, A. Skripka, F. Vetrone, L. Marciniak, D.H. Hreniak, A. Speghini*

9:50 INOR 579. Large-area ultrathin metal-oxide semiconductor nanoribbon arrays fabricated by chemical lift-off lithography. *C. Zhao, X. Xu, S. Bae, Q. Yang, W. Liu, J.N. Belling, K.M. Cheung, Y.S. Rim, Y. Yang, A.M. Andrews, P.S. Weiss*

10:10 INOR 580. Controlled synthesis and characterization of metal alloy nanoparticles and their size-dependent phase diagrams. *J. Pinkas, V. Vykoukal, T. Boruvka, A. Kroupa*

10:30 INOR 581. Synthesis and catalytic applications of Rh multipod nanoparticles using flow methods and CuM, (M=Rh, Pd) bimetallic nanoparticles in batch reactors under microwave heating. *P. Kunal, E.J. Roberts, C. Riche, H. Li, C. Yan, J. Troutman, H. Guo, M. Duncan, N. Malmstadt, R.L. Brutchey, C.J. Werth, G. Henkelman, S.M. Humphrey*

10:50 INOR 582. Carbon bond structure in fumed nanodiamonds. *H. Kim, K.H. Lee*

11:10 INOR 583. Targeting orthotopic gliomas with renal-clearable luminescent gold nanoparticles. *C. Peng, J. Xu, B. Du, M. Yu, J. Zheng*

11:30 INOR 584. Quantifying the thermodynamics of ligand binding to CsPbBr₃ quantum dots. *S.R. Smock, R.L. Brutchey*

11:50 INOR 585. Colloidal synthesis, energy gap tuning, and carrier dynamics of GeSiSn alloy quantum dots with visible to near IR photoluminescence. *E.H. Eladgham, T.A. Nakagawara, D.O. Demchenko, U. Ozgur, I.U. Arachchige*

12:10 INOR 586. Lewis acidic Z-type ligands and the surface chemistry of nanocrystal materials. *N.C. Anderson, J.S. Owen*

12:30 INOR 587. Multipolar plasmon expansion for small nanoparticles of arbitrary shapes. *M.A. Ochoa*

SECTION G

Boston Convention & Exhibition Center

Room 208

Organometallic Chemistry: Synthesis & Characterization

N. S. Radu, *Organizer*

G. Dobreiner, N. A. Piro, *Presiding*

8:30 INOR 588. Synthesis and ion-pairing properties of moderately-coordinating anions for organometallic chemistry. *D.I. Wozniak, W.A. Sabbers, G. Dobreiner*

8:50 INOR 589. NHC supported dinuclear nickel(I) hydride monocation complex. *Y. Cao, J. Bacsa, J.P. Sadighi*

9:10 INOR 590. Synthesis, structure, and reactivity studies on late-metal metallocyclobutene complexes. *J.M. O Connor, P. Qin, K. Bunker, R.L. Holland, K.K. Baldridge*

9:30 INOR 591. Methodologies to extend the pi conjugation in metallocenes. *U.R. Pokharel, J. Bergeron, D. Daigle, J.P. Selegue*

9:50 INOR 592. Synthesis and characterization of aluminum-based heterobimetallic complexes. *T. Yakley*

10:10 INOR 593. Dehydrogenative coupling of 4-substituted pyridines mediated by a zirconium(II) synthon: Reaction pathways and dead ends. *L.S. Merz, H. Wadeppoh, E. Clot, L.H. Gade*

10:30 INOR 594. Exploring N₂ activation of [(PNP)Cl(CO)W]₂·μ-N₂] with reducing agents and Brønsted acids. *N. Maciulis, B. Schlusshagen, C. Wuertele, M. Pink, S. Schneider, K.G. Caulton*

10:50 INOR 595. Copper chemistry associated with oxidation reactions carried out by complexes of a bis(guanidinyl)pyridine ligand. *J.E. Allen, B.L. Taylor, N.A. Piro*

11:10 INOR 596. Solving key challenges of C₂ + N₂ aziridination through improved catalyst design. *C.L. Keller, J.L. Kern, G. Elpitiya, P.P. Chandrachud, S. Roy, D.M. Jenkins*

11:30 INOR 597. Aromatic C-H borylation catalyzed by pincer complexes of iridium. *M. Hung, L. Press, O. Ozerov*

11:50 INOR 598. Catalytic C(sp³)-H bond activation and stoichiometric oxidation of arenes with O₂ mediated by sulfonated Pt^{II} pincer complexes: A mechanistic characterization. *D.B. Watts, P.Y. Zavalij, A.N. Vedernikov*

12:10 INOR 599. Platinum-catalyzed ligand-directed C-H functionalization reactions. *S. Huo*

12:30 INOR 600. Direct dynamics reveals a blurred line between C-H activation and functionalization mechanistic steps. *R. Carlsen, D. Ess*

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Theory of Excited-State X-ray Spectra

Sponsored by PHYS, Cosponsored by INOR

WEDNESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center

Room 252A

Bioinorganic Chemistry: Proteins & Enzymes & Model Systems

S. A. Koch, *Organizer*

E. Kim, H. R. Lucas, *Presiding*

1:30 INOR 601. Phage-displayed inhibitor peptides against Sortase A: A novel antibiotic molecules. *N. Ersoz, F. Dudak*

1:50 INOR 602. Metal redox chemistry promotes distinct structural assemblies of N-acetylated α-synuclein. *H.R. Lucas*

2:10 INOR 603. Chemoproteomic interrogations of endogenous bacterial metal-ligation. *D. Bak, E. Weerapana*

2:30 INOR 604. Selective conversion of CO₂ to CO at a single nickel center. *Y. Lee*

2:50 INOR 605. Kinetic and spectroscopic investigation of oxygen activation at a single iron center via Gibbs free energy coupling: Generation of an active alkane oxidation catalyst. *L. Cunningham, J.T. Babicz, W. Tucker, J.L. McCracken, E.V. Rybak-Akimova, E.I. Solomon, J.P. Caradonna*

3:10 INOR 606. Role of allosteric activation on the active site properties of phenylalanine hydroxylase (PheH). *D. Nolan, G. Anarat-Cappellino, J.L. McCracken, J.P. Caradonna*

3:30 INOR 607. Reactivity of late first-row transition metals in a tetrapodal ligand containing a secondary coordination sphere. *M.J. Drummond, A.R. Fout*

3:50 Intermission.

4:00 INOR 608. Principles of metal selectivity bias in metallothionein metal-thiolate clusters. *J. Calvo, V. Lopez, G. Meloni*

4:20 INOR 609. Mechanistic studies of a biomimetic small-molecule catalyst capable of O₂-dependent alkane oxidations. *M. Malloy, W. Tucker, L. Cunningham, J.P. Caradonna*

4:40 INOR 610. Uncoupled oxygen activation by the alpha-ketoglutarate dependent oxygenase FIH. *M. Knapp, V. Chaplin*

5:00 INOR 611. Lewis acid assisted O-atom transfer chemistry with biomimetic molybdenum complexes. *L.T. Elrod, S. Chen, E. Kim*

5:20 INOR 612. Active site dynamical effects in the hydrogen transfer rate-limiting step in the catalysis of linoleic acid by soybean lipoxygenase-1 (SLO-1): Primary and secondary isotope contributions. *S.S. Iyengar*

5:40 INOR 613. Revealing ion- and mutation-dependent structure and dynamics in calmodulin's ion binding sites with ultrafast vibrational spectroscopy. *S.C. Edington, C. Boiz*

SECTION B

Boston Convention & Exhibition Center

Room 251

Organometallic Chemistry: Synthesis & Characterization-Late Transition Metals

N. S. Radu, *Organizer*

D. C. Powers, *Presiding*

1:30 INOR 614. Comparing interactions of a three-coordinate Pd cation with common weakly-coordinating anions. *D.I. Wozniak, W.A. Sabbers, K. Weerasiri, L. Dinh, J.L. Quenzer, G. Dobreiner*

1:50 INOR 615. Molecular cage synthesis and substitution chemistry of rhodium based molecular gyroscopes. *A.L. Estrada, J. Bluemel, J.A. Gladysz*

2:10 INOR 616. Hume-Rothery inspired bimetallic clusters: Organometallic chemistry at the borderline between molecular compounds and intermetallic solid state phases. *J. Hornung, H. Banh, C. Gemel, R. Fischer*

2:30 INOR 617. Photosynthesis and direct characterization of reactive metal-ligand multiply bonded intermediates. *D.C. Powers*

2:50 INOR 618. Divergent synthesis of well-defined copper (0) and copper hydride nanoclusters. *J.L. Peltier, R. Jazsar, G. Bertrand*

INOR

3:10 INOR 619. "Eppur si muove! And yet it moves!": The intermolecular dynamic behaviour of multidentate ferrocenyl phosphines and their metal complexes in solution. *C.A. Urbina-Blanco, B. Kovács, J. Guilbaud, J.C. Martins, J. Hierso, M. Saeys*

3:30 INOR 620. Synthesis, characterization, and reactivity of cationic gold diarylallenyldiene complexes and related gold(I) carbene systems. *N. Kim, R. Widenhofer*

3:50 INOR 621. Characterization of monomeric copper(I) and silver(I) hydrides. *E.A. Romero, P. Olsen, R. Jazsar, M. Soleilhavoup, M. Gembicky, G. Bertrand*

4:10 INOR 622. Unsymmetrical dicyclopentadienyl complexes: Synthesis and enhanced reactivity. *A. Nicolay, T. Tilley*

4:30 INOR 623. Synthesis of cobalt-organoazide adduct complexes and their C-H amination reactivity. *Y. Baek, T. Betley*

4:50 INOR 624. Synthesis, reactivity, and oxidative rearrangements of a two-coordinate nickel silyl complex. *R. Witzke, T. Tilley*

5:10 INOR 625. Stepwise reduction of NO₃⁻ to N₂ at a single nickel center. *J. Gwak, Y. Lee*

SECTION C

Boston Convention & Exhibition Center
Room 213

Chemistry of Materials: Synthesis & Properties

C. G. Lugmair, Organizer
M. Azim, A. Devi, Presiding

1:30 INOR 626. Design, synthesis, and characterization of novel porous coordination complexes. *E. Gosselin, C.A. Rowland, E.D. Bloch, K.P. Balto*

1:50 INOR 627. Iron β-ketoiminates as a versatile class of precursors for nanostructured iron oxide films via vapor phase and solution based methods. *A. Devi, A. Sadlo, D. Peeters*

2:10 INOR 628. Ionic liquids as a mold to cast crystalline microporous aluminophosphates. *M. Azim, A. Stark*

2:30 INOR 629. Ligand-based phase control in porous molecular assemblies. *O. Barreda, G. Bannwart, E.D. Bloch*

2:50 Intermission.

3:05 INOR 630. Plasmon resonance in low dimensional Sr_{1-x}Ti_xNb_{1-x}O_{3-δ} nanoparticles. *T. Ofegbuna, P. Darapaneni, W. Shelton, J.A. Dorman*

3:25 INOR 631. Investigation of spin dynamics in photodoped Cr:SrTiO₃ colloidal nanocrystals. *W. Harrigan, K.R. Kittilstved*

3:45 INOR 632. Nitrogen and Iron(III) doped TiO₂ hydroxalite composites, synthesis and photocatalytic properties. *M. Jitianu, A. Hernandez-Mujica, L. Kuhlman, E. Edouarzin, N. O'Connor, A. Jitianu*

4:05 INOR 633. Investigation of Pt(II) precursors for electron beam-induced deposition of Pt nanostructures. *H. Lu, J.A. Spencer, F. Ferreira da Silva, O. Ingólfsson, H. Fairbrother, L. McElwee-White*

SECTION D

Boston Convention & Exhibition Center
Room 212

Coordination Chemistry: Characterization & Applications

A. Larsen, Organizer
D. P. Harrison, J. Moberly, Presiding

1:30 INOR 634. Coordination chemistry of phosphonate-derivatized ruthenium polypyridyl complexes adsorbed on metal oxide surfaces. *D.P. Harrison, M. Raber, M.D. Brady, L. Troian-Gautier, S.L. Marquard, G.J. Meyer, T. Meyer*

1:50 INOR 635. Tuning the optical and electrochemical properties of zirconium based molecular photosensitizer. *Y. Zhang, D. Leary, C. Milsmann*

2:10 INOR 636. Luminescent Cr(0) and Mo(0) Complexes. *O.S. Wenger*

2:30 INOR 637. Synthesis of targeted heptamethine cyanine dyes as potential PET/NIR multimodal imaging agents and evaluation of their role as oxygen sensors. *F. Cortezon-Tamarit, H. Ge, S. Pasco*

2:50 INOR 638. Integration of self-assembled metal-organic polyhedra in polymeric mixed-matrix materials for enhanced membrane gas separation. *C.P. Fulong, J. Liu, V.J. Pastore, H. Lin, T.R. Cook*

3:10 Intermission.

3:20 INOR 639. Obstacles in 1:2 metal-ligand coordination complexes: Approaches to navigating the degree of freedom landscape. *S.R. Wolfe, M. Chakraborty, N.J. Rueb, N.A. Johnson, M.F. Roll, K.V. Waynant, J. Moberly*

3:40 INOR 640. Solid state synthesis of vanadyl(IV) complexes: Simple design with high potency towards cancerous cells. *M. Zegke, H. Spencer, R. Lord*

4:00 INOR 641. Synthesis and structures of a family of dinuclear silver(I)pyrrolates: Assessment of their antibacterial efficacy against *P. aeruginosa* with a soft tissue and skin infection model. *S. Kandel, I. Chakraborty, J. Stenger, R.G. Raptis*

4:20 INOR 642. Syntheses, spectroscopic, crystal structures, biological potency, magnetic and EPR properties of some metal(II) complexes of carboxylate groups and their Co-ligands. *J.A. Obaleye, A.A. Ajibola, B. Van Brecht, A. Ozarowski, A.O. Rejee, A.A. Aliyu, O.R. Eso*

4:40 INOR 643. Role of charge and oxidation states in the structure and reactivity of a family of bis(imino)pyridine iron alkoxides. *S. A. Gonsales, K.R. Delle Chiaie, A.B. Biernesser, M. Thompson, J.A. Byers*

SECTION E

Boston Convention & Exhibition Center
Room 211

Main Group Chemistry

T. Hudnall, Organizer
G. Pantos, Presiding

1:30 INOR 644. Anionic N-heterocyclic dicarbenes: A surprising connection between N-heterocyclic carbenes and thiolates. *Y. Wang, K.M. Luedecke, N.L. Dominique, H. Hickox, G.H. Robinson*

1:50 INOR 645. Interaction of xenon trioxide (XeO₃) with halide ions. *V.G. Hänsch, J.T. Goettl, G.J. Schrobilgen*

2:10 INOR 646. Broazatruxenes - stable borazine derivatives with tuneable properties. *G. Pantos, S. Limberti, L. Emmett*

2:30 INOR 647. Advances in the chemistry of primary phosphines. *J.K. West, B.A. Palen, E. Landgreen, T. Bell*

2:50 Intermission.

3:00 INOR 648. Associative phosphinidene transfer from dibenzo-7-phosphanobornadiene compounds. *W. Transue, M.B. Geeson, C.C. Cummins*

3:20 INOR 649. Phosphorylation using peptide coupling reagents: Synthetic routes to new ligand architectures and bioactive molecules. *S.M. Shepard, C.C. Cummins*

3:40 INOR 650. Luminescent cyclic amine substituted β-diketones and difluoroboron complexes. *F. Wang, D. Song, C.L. Fraser*

4:00 INOR 651. Synthesis and ligand-based redox chemistry by molecular group 13 complexes. *T. Sherbow, L.A. Berben*

SECTION F

Boston Convention & Exhibition Center
Room 209

Chemistry of Materials: Metal Organic Frameworks

C. G. Lugmair, Organizer
T. J. Kempa, S. Stoian, Presiding

1:30 INOR 652. Encapsulation of single metal nano-particle in single-crystalline MOFs by controlling surfactants at interface. *Y. Li, F. Zhang, X. Liu, C. Tsung*

1:50 INOR 653. Dynamic structural flexibility of Fe-MOF-5 evidenced by field-dependent Moessbauer and HFEPR. *S. Stoian, M. Dinca, A. Ozarowski, C.K. Brozek*

2:10 INOR 654. Quo vadis niobium? Multifaceted coordination behavior of MOF-5. *M.D. Korzynski, L. Braglia, E. Borfecchia, A. Baldansuren, C.H. Hendon, C. Lamberti, M. Dinca*

2:30 INOR 655. Luminescent conductive metal-organic frameworks. *G. Skorupskii, M. Dinca*

2:50 INOR 656. Azolate frameworks involving unusual metal nodes. *J. Marrett, H.M. Titi, D. Gandrath, I. Huskic, T. Friscic*

3:10 INOR 657. Gas-phase synthesis of hierarchically structured and responsive metal-organic frameworks. *T.J. Kempa, F.J. Claire, S. Tenney, M. Solomos*

3:30 Intermission.

3:45 INOR 658. Investigating UiO-66 based mixed matrix membranes for membrane separations. *Y. Katayama, S. Cohen*

4:05 INOR 659. Two-dimensional metal-organic frameworks for biomimetic catalysis and bio-related separation. *Z. Gu*

4:25 INOR 660. Characterization of undercoordinated Zr defect sites and μ₃ hydroxyls in UiO-66 with vibrational spectroscopy of adsorbed CO. *D.M. Driscoll, D. Troya, P. Usov, A.J. Maynes, A.J. Morris, J.R. Morris*

4:45 INOR 661. Creating composite materials by embedding the antimicrobial metal-organic framework MOF-199 into a cellulose matrix: A biomimetic adsorbent material for water remediation. *D. Kissel*

5:05 INOR 662. Welding phthalocyanines into bimetallic molecular meshes for low-potency chemiresistive detection. *M. Zheng*

SECTION G

Boston Convention & Exhibition Center
Room 208

Environmental & Energy-Related Inorganic Chemistry

S. A. Koch, Organizer

M. E. Hagerman, D. Villagran, Presiding

1:30 INOR 663. Polyoxovanadate-alkoxide application in non-aqueous redox flow batteries: Solutions for grid-scale energy storage. *L.E. VanGelder, A.M. Kosswattaarachchi, T.R. Cook, E.M. Matson*

1:50 INOR 664. Water oxidation in refineries as an example of applied solar fuels research. *S.W. Sheehan, C. Chen, J.K. Kotyk*

2:10 INOR 665. Developing well-defined base metal molecular electrocatalysts for CO₂ valorization. *J. Luo, B. Hu, T. Liu*

2:30 INOR 666. Driving force dependence of iodide oxidation in intermolecular (Ru:2I⁻) ruthenium excited-states. *S.A. Wehlin, L. Troian-Gautier, R. Sampaio, G.J. Meyer*

2:50 INOR 667. Efficient CO₂ reduction using the bismuth alloy Rose's metal in the presence of room-temperature ionic liquid electrolytes. *T. Kunene, A. Atifi, J. Rosenthal*

3:10 Intermission.

3:30 INOR 668. Hypervalent iodine oxides and chloride for the conversion of light alkanes to mono-functionalized products: A radical-based process for selective partial oxidation. *N. Schwartz, N.C. Boaz, G. Fortman, S.E. Kalman, J.M. Goldberg, R. Fu, R.J. Nielsen, W.A. Goddard, J.T. Groves, T.B. Gunnoe*

3:50 INOR 669. Rational design of pyridine-oxazoline ligands in metal-based CO₂ reduction catalysts. *A.M. Angeles Boza*

4:10 INOR 670. Next generation electrolytes for safer sodium ion batteries. *P. Fischer, M. Do, M. Srinivasan, F.E. Kuehn*

4:30 INOR 671. Morphology and conductivity studies of laponite/single-walled carbon nanotube nanonetworks. *M.E. Hagerman, R. Cortez, L. Valdman, D. Dobbs*

4:50 INOR 672. Electrocatalytic water splitting with organic macrocycles. *D. Villagran, Y. Wu, N. Rodriguez, I. Barraza*

5:10 INOR 673. FRET colorimetric fluorescence sensing system based on [5]helicene and rhodamine 6G for selective determining Hg²⁺ ions. *A. Petdum, W. Panchan, A. Chaoenpanich, J. Sirirak, V. Promarak, T. Sooksimuang, N. Wanichacheva*

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Frontiers in X-ray Methods

Sponsored by PHYS, Cosponsored by INOR

WEDNESDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Organometallic Chemistry: Catalysis

N. S. Radu, Organizer

5:30 – 7:30

INOR 674. Highly enantioselective iron-catalyzed synthesis of oxaheterocycles via reduction of ω-haloketones. *C.K. Blasius, V. Vasilenko, L.H. Gade*

INOR 675. Heterogenized fluoro phthalocyanine photocatalysts. *M. Pelmus, C. Colomier, H.H. Patel, X.C. Olivia, R. Foglia, M. Suazo, S.M. Gorun*

INOR 676. Synthesis and reactivity of a structurally well-defined gold(III) complex in a metal-organic framework. *J.S. Lee, E.A. Kapustin, D. Toste*

INOR 677. Toward copper-catalyzed asymmetric P-C bond formation using chiral NHCs. *L. Mendelsohn, S. Gibbons, G. Wang, D. Glueck, A.L. Rheingold*

INOR 678. Synthesis and characterization of new Schrock-type Mo-alkylidene complexes supported by dithiolate ligands. *H. Tafazolian, R.R. Schrock*

INOR 679. Synthesis, characterization, and reactivity of nickel complexes of primary amido-functionalized N-heterocyclic carbene ligands. *T.V. Roach, M.L. Schmitz, V.A. Leach, M.D. Miller, B.C. Chan, S.E. Kalman*

INOR 680. Nickel catalyzed 1,4-selective hydroboration of pyridines and N-heteroarenes. *A. Singh, S.R. Tamang, M. Findlater*

INOR 681. Kinetics and mechanism of halide exchange between CpRu(PPh₃)₂Cl and methyl iodide. *A. Duran, R.U. Kirss*

INOR 682. Catalytic upgrading of ethanol using pincer type complexes. *R.M. Padilla, E. Christensen, M. Nielsen*

INOR 683. Catalytic synthesis of "super" linear alkenyl arenes using a Rh(I) catalyst supported by a "capping arene" ligand: Access to aerobic catalysis. *J. Chen, R.J. Nielsen, W.A. Goddard, B.A. McKeown, T. Gunnoe*

INOR 684. Theoretical study on the reaction mechanisms of platinum-catalyzed acylation reaction. *E. Warden, L.J. Bartolotti, Y. Li, S. Huo*

INOR 685. Palladium-catalyzed allylic alkylation of 2-aryl-1,3-dithianes, an umpolung synthesis of β , γ -unsaturated ketones. *N. Trongsirivat*

INOR 686. Synthesis of high oxidation state Mo=CHX complexes (X = Cl, CF₃, CN) relevant to Z-selective electron poor olefin metathesis. *S. Venkatramani, K. Bukhryakov, R.R. Schrock, A.H. Hoveyda, C. Tsay, P. Mueller*

INOR 687. Synthesis of molybdenum oxo alkylidene complexes through addition of water to alkylidene complexes. *F. Zhai, K. Bukhryakov, R.R. Schrock*

INOR 688. Zirconium MOF hydrates: Remediating organophosphorus contaminants. *Y. Kalinovsky, B. Blight, S.J. Holder, N.J. Cooper, M. Main*

INOR 689. Study of axial steric effects on reductive elimination from (PNP)Rh^{III} complexes. *S. Gu, K.H. Taylor, J. Chen, G. Fortman, R.J. Nielsen, W.A. Goddard, T. Gunnoe*

INOR 690. Exploring C-N coupling promoted at group 4 metal centers. *D. Javier Jimenez, A. Kreider-Mueller, D.R. Manke*

INOR 691. Comparative nitrene-transfer chemistry to olefinic substrates mediated by a library of anionic Mn(II) triphenylamido-amine reagents and M(II) congeners (M = Fe, Co, Ni): An experimental and computational study. *Z. Sun, A. Kalra, T.R. Cundari, P. Stavropoulos*

INOR 692. Chemical and electrochemical activation modes of a [Cp*Rh] monohydride. *E. Boyd, K.V. Prather, D. Lionetti, J.D. Blakemore*

INOR 693. Multifunctional aryloxide β -diketiminato rare-earth complexes for the ring-opening polymerization of cyclic esters. *K.C. Casey, J.K. Appiah, J.R. Robinson*

SECTION B

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Organometallic Chemistry: Applications to Organic Transformations

N. S. Radu, Organizer

5:30 – 7:30

INOR 694. C-C and C-heteroatom coupling reactions at high valent nickel. *C. Roberts, N. Camasso, E. Bowes, M.S. Sanford*

INOR 695. Non-directed C-H activation and formation of C-N and C-O bonds using Cp*Ir and Cp*Rh catalysts. *M. Kerr, E. Hickey, E. Mattson, S. Rosario, V. Fratantonio*

INOR 696. Development of palladium-catalyzed allylation of aromatic imidates. *S.R. Waetzig, B. McLernon, P. O'Connor*

SECTION C

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Coordination Chemistry: Characterization & Applications

A. Larsen, Organizer

5:30 – 7:30

INOR 697. Density functional theory study of potential NO donors [RuCl(NO)(cyclam)]²⁺ and [Ru(EDTA)NO]⁻. *J. Jorolan, C. Cabigon*

INOR 698. Effects of intramolecular spin polarization on the thermodynamic properties of tetraoxolene exchange-coupled systems. *S. Li, J.K. McCusker*

INOR 699. A new set of Cd(II) coordination polymers with mixed ligand of dicarboxylate and pyridyl substituted diaminotriazine: selective sorption towards CO₂ and cationic dye. *S. Chand*

INOR 700. Rhodamines-functionalized silsesquioxanes cages as optical sensor for highly sensitive and selective detection of Hg²⁺ ion in aqueous solution. *P. Piyanch, R. Kunthom, V. Ervithayasuporn, N. Wanichacheva*

INOR 701. A highly selective ON-OFF fluorescence detection of Cu²⁺ ions in aqueous solution based on core-substituted naphthalene diimides (cNDIs). *P. Praikaw, S. Langford, S. Maniam, J. Sirirak, N. Wanichacheva*

INOR 702. Aluminium and titanium metal complexes: Synthesis, characterisation and their application in ring opening metathesis polymerisation (ROMP). *R. Lord, F. Janeway, P. McGowan*

INOR 703. Coupling UV-Vis and NMR titration models to determine association constants of arylazothioformamide ligands with various copper(I) salts. *S.R. Wolfe, M. Chakraborty, N.A. Johnson, N.J. Rueb, C. Kingsley, M.F. Roll, K.V. Waynant, J. Moberly*

INOR 704. Molybdenum nitride basicity effects on nitrogen reduction. *A. Hickey, C. Tsay, P. Mueller, R.R. Schrock*

INOR 705. Supramolecular complexes of nucleotides with a macrocycle-based molecular host. *A. Hossain, M. Rhaman, A. Jahan, D.R. Powell*

INOR 706. Selective binding of cyanide with a dinuclear metal complex. *A. Alamgir, M. Rhaman, D.R. Powell, A. Hossain*

INOR 707. Cu(II) and Zn(II) complexes of 4-hydroxy-N-((3-hydroxy-5-(hydroxymethyl)-2-methylpyridin-4-yl)methylene) benzohydrazide: Synthesis, characterization, DNA binding, DNA cleavage and antibacterial studies. *V. Chittireddy*

INOR 708. Coordination number effects on copper-mediated aliphatic carbon-carbon bond cleavage reactions of chlorinated β -diketones. *J.G. Elsborg, S. Saraf, L.M. Berreau*

INOR 709. Transition metal ion encapsulation via micelles of diblock copolymers. *C. Chen, A. Ringuette, H. Koota, L. Cai, S.L. Goh, C. Goh*

INOR 710. Properties, reactivity, and applications of trans-dichlorobis(ethylenediamine)cobalt(III) chloride, trans-[Co(en)₂Cl₂]Cl. *C.S. Lin Latt, J.P. Lanorio*

INOR 711. Organophosphate sensing using the 3d metal coordination complexes. *S. Love, I. Bhowmik*

INOR 712. Transition metal complexes: Toward catalysis and small molecule therapy. *E. Delgado, E.R. Paulson, D.B. Grothahn*

INOR 713. Development of macrocyclic Fe(III) T₁ MRI contrast agents. *D. Asik, E. Snyder, J. Sperryak, J.R. Morrow*

INOR 714. Copper based organometallic light-emitting luminophores. *Y. Kim, Y. Lee*

SECTION D

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Chemistry of Materials

C. G. Lugmair, Organizer

5:30 – 7:30

INOR 715. Stable homo-interpenetrated triazolate-based MOF for H₂ storage. *Q. Wang, H. Zhou*

INOR 716. Fabrication of e-Fe₂N catalytic sites in porous carbons derived from an iron-triazolate crystal. *Y. Fujiwara, M. Tsujimoto, K. Kanokwan, N. Tabori, S. Horike, S. Kitagawa*

INOR 717. Highly sensitive, transparent, and flexible temperature sensors based on silver fractal dendrites. *J. Kim, Y. Lee*

INOR 718. Silver nanoparticle inks for fine patterns using reverse offset printing. *K. Park, Y. Lee*

INOR 719. Design and applications of dendritic ligands for nanoparticle stability, assembly, and property tuning. *K.C. Elbert, J.D. Lee, N.M. Krook, D. Jishkariani, Y. Wu, C.B. Murray*

INOR 720. Porous gold nanoparticles for inhibiting viral membrane fusion of Influenza A virus. *J. Kim, S. Haam, D. Song*

INOR 721. Design of extended phosphonate ligands to increase porosity and stability of metal-organic frameworks. *W.S. Pantoja Romero, V. López-Mejias*

INOR 722. Efficient thermal atomic layer deposition process enhancing by precursors containing long chains electron-donating ligand. *Y. Zhang, L. Du, Y. Ding*

INOR 723. Modified silicon nanoparticles as advanced anode materials and the improved electrochemical performance for lithium-ion battery. *N. Bao, Y. Liu, C. Zhong, J. Tian*

INOR 724. Synthesis and characterization of ZnO nanoparticles and their use to photocatalyze the degradation of malachite green. *A.E. Harris, C.C. Pena, J.E. Cowan, J.D. Harris*

INOR 725. Electrochemiluminescence of Ru doped metal-organic frameworks. *Q. Loague, M. Cai, A.J. Morris*

INOR 726. Thermal decomposition of [Cat]₂[WSe₄] for facile formation of WSe₂. *J. Kim, B. Park, T. Chung, C. Kim*

INOR 727. Electrochemical reductive grafting and photothermal properties studies of bis(diazonium) gold(III) salts. *S. Isah, B. Workie, A. Marcano, S. Panicker, A. Mohamed*

INOR 728. Mesoporous NNN-pincer metal-organic framework as readily prepared noble metal-free catalyst. *Y. Zhang, J. Li, X. Yang, H. Zhou*

INOR 729. 2-Hydroxy-4-methoxybenzophenone-5-sulfonate intercalated layered double hydroxide: 2D restriction-induced luminescence and its application as a fluorescent biosensor. *J. Lu, R. Ma, P. Zhang*

INOR 730. Synthesis and design of new type 3 porous liquids. *J. Cahir, M. Tsang, S. James, J. Jacquemin, D. Rooney*

INOR 731. Zeolite-supported bisuthoxydioxide visible-light-active photocatalysts for dehydrodimerization of cyclohexane. *R. Arthur, R. Warner, C. Vaughn, J. Hamilton, C.H.H. Patterson*

INOR 732. Solvothermal synthesis of FeSe-SrTiO₃ nanocomposites and their magnetic properties. *K. Kim, S. Huh, K. Song, H. Park, Y. Sur, K. Kim, N.H. Hur*

INOR 733. Solvent-free synthesis of nitrogen-doped carbon sheets derived from glucose for CO₂ capture. *K. Lee, S. Lee, H. Kim, S. Bang, B. Lee, N.H. Hur*

INOR 734. Fabricating iron oxide magnetic features using an iron MOD coordination complex by inkjet printing. *O. Almaliki, S. Williams*

INOR 735. Effect of nitro group on the photophysical properties of porphyrin dyes. *A. Aggarwal*

INOR 736. Atmospheric-pressure sulfur-based microplasma for material synthesis. *F. Zoghieb, S. Stephen, S. Al Hassan*

INOR 737. Solution phase synthesis of highly crystalline Bi chalcogenide nanostructured materials. *V.V. Pillai, V. Tzitzios, S. Stephen, S. Al Hassan*

INOR 738. Red phosphorus thin films for energy applications. *P. Martins Amaral, H. Ji, G. Schwenk*

INOR 739. Using metal-organic frameworks as multi-functional platforms for the studies of medicinal and cosmetic materials. *M. Zhuo, Y. Chen*

INOR 740. Solvothermal synthesis of pure-phase NU-901: The effects of zirconium salt and carboxylic modulator components on MOF topology and phase purity. *S.J. Garibay, T. Islamoglu, O.K. Farha, J. DeCoste*

INOR 741. Synthesis and characterization of lead halide perovskites for solid state lighting. *E.T. Nguyen, D.A. Hardy, R.A. Tigaa, G.F. Strouse*

INOR 742. Conductivity of borane salts: Characteristics of amino borane cages and hydroxylated versions. *D. Staska, G. Bosworth, C. Hillebrand, J.N. Woodford*

INOR 743. Incorporation of corrole and porphyrin based ligands into metal-organic frameworks. *J. Alatis*

INOR 744. Comparative toxicity of ZnO nanoparticles synthesized using different amines. *J.D. Harris, C.C. Pena, J.E. Cowan, K. Cornell*

INOR 745. Study of haziness in silica wet-gels and in mechanically strong, thermally insulating polymer-crosslinked aerogels. *C. Mandal, S. Donthula, C. Sotiriou-Leventis, N. Leventis*

INOR 746. Structural reorganization of silica wet-gels upon drying: Why aerogels shrink? *C. Mandal, S. Donthula, C. Sotiriou-Leventis, N. Leventis*

INOR 747. Design and synthesis of WO(OR)₂L precursors for chemical vapor deposition of WO₃ films. *X. Su, D.C. Bock, L. McElwee-White*

INOR 748. Sturdy, monolithic SiC and Si₃N₄ aerogels from compressed polymer-crosslinked silica xerogel powders. *P. Rewatkar, T. Taghvaei, A. Saeed, S. Donthula, C. Mandal, N.K. Chandrasekaran, T. Leventis, S. T. K., C. Sotiriou-Leventis, N. Leventis*

INOR 749. Fabrication and characterization of cerium-copper-silica and cerium-copper-alumina catalytic aerogels. *T.F. Andre, M.K. Carroll, A.M. Anderson, B.A. Bruno*

INOR 750. Electrode-assisted synthesis (EAS) of metal-organic frameworks. *A. Antonio, E.D. Bloch, J. Rosenthal*

INOR 751. Functionalization of UiO-66 MOF composites to enhance catalytic performance for the photoelectrochemical water splitting cell. *J.J. Shanahan, D.S. Kissel, J.J. Keleher*

INOR 752. Exploring the electrosynthesis of MIL-100(Fe) derivatives. *A.I. Arnoff, E.D. Bloch, J. Rosenthal*

INOR 753. Heterodinuclear metal-organic framework materials for photocatalytic carbon dioxide reduction. *H. Brooks, B. Yan*

SECTION E

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Organometallic Chemistry: Synthesis & Characterization-Early Transition Metals

N. S. Radu, Organizer

5:30 – 7:30

INOR 754. Reimagine early transition metal luminescent metallocenes with built-in redox-active ligands. *P.N. Do, M.E. Nally, Y. Zhang, C. Milsman*

INOR 755. Constructing a scandocene donor series with ⁴⁵Sc solid state NMR. *D. Culver, W. Huynh, M.P. Conley*

INOR/MEDI

SECTION F

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Inorganic Spectroscopy

C. Popescu, Organizer

5:30 – 7:30

INOR 756. Magnetic effect on photoluminescence in lanthanide-doped nanoparticles. *M.C. Ellis, D. Hardy, R.A. Tigaa, S. McGill, G.F. Strouse, N.S. Dalal*

INOR 757. Alkyl arylinium iodocuprate networks: Structural and spectroscopic diversity. *R.D. Pike, A.M. Wheaton, A.D. Nicholas, F. Barnes, H.H. Patterson*

INOR 758. Exploring Al speciation and interactions in caustic conditions by accurate ²⁷Al NMR shielding tensor calculations. *E. Martinez Baez, C. Pearce, G.K. Schenter, A.E. Clark*

INOR 759. Optical memory in 1D chain noble metal thiocyanate complexes. *A.D. Nicholas, B.A. Otten, M.A. Omary, R.D. Pike, H.H. Patterson*

INOR 760. Non-covalent interactions of halides with a nitrophenyl-functionalized hexaurea receptor. *M.H. Hasan, B. Partis, C.R. Johnson, A. Gardner, R. Tandon, A. Hossain*

INOR 761. Spectroscopic studies of a dinuclear copper(II) complex for halide binding. *M. Rhaman, M.H. Hasan, A. Hossain*

INOR 762. Using ²⁰⁷Pb NMR to investigate temperature dependent nuclear spin relaxation and Pb-O bond covalency in relaxor ferroelectrics. *C.E. Avalos, B. Walder, L. Emsley*

SECTION G

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Bioinorganic Chemistry: Proteins & Enzymes & Model Systems

S. A. Koch, Organizer

5:30 – 7:30

INOR 763. Reduction coordination thermodynamics: Developing and applying a method to quantify metalloprotein electron transfer thermodynamics using copper proteins. *K. Connelly, M.L. Croteau, D. Wilcox*

INOR 764. Modulating the catalytic activity of bioorthogonal nanozymes through surface engineering. *R. Cao-Milán, L.D. He, S. Shorkey, G. Tonga, L. Wang, X. Zhang, I. Uddin, R. Das, M. Sulak, V.M. Rotello*

INOR 765. Development of photoactivatable sensors for detecting mobile zinc. *F. Wang, J.M. Goldberg, C.D. Sessler, N.W. Vogler, D.Y. Zhang, W.H. Loucks, T. Tzounopoulos, S.J. Lippard*

INOR 766. Spectroscopic studies of hCtr1 model peptides reveal an essential role of aspartate-2 in Cu(II) reduction. *M. Matthews, K.L. Haas*

INOR 767. Binding thermodynamics and structural stability: The effect of native and non-native metal ions on the periplasmic mercury metallochaperone, MerP. *M. Mehlenbacher, H. Wahba, J.G. Omichinski, D. Wilcox*

INOR 768. Modeling NO and O₂ signaling via synthetic [4Fe-4S] clusters. *A. Thibodeaux, R. Lehane, E. Kim*

INOR 769. A method for selective depletion of Zn(II) ions from complex biological media and evaluation of cellular consequences of Zn(II) deficiency. *C.E. Richardson, L. Cunden, V. Butty, E.M. Nolan, S.J. Lippard, M. Shoulders*

INOR 770. Cu - directed hydroxylation of sp² C-H bonds. *R. Trammell, I. Garcia-Bosch*

INOR 771. Synthesis and reactivity of new [2Fe-2S] clusters to study the role of mitoNEET proteins. *K. Ferguson, K. Sterling, E. Kim*

INOR 772. Spectroscopic and computational studies of a Co(II)-substituted small molecule mimic of superoxide dismutase. *N. Stracey, M. Murray*

INOR 773. Multiple copper binding sites on human copper transporter 1. *E. Slogar, K.L. Haas*

INOR 774. Nitrate and perchlorate reduction via Lewis-acid assisted oxygen atom transfer by biomimetic Mo complexes. *S. Chen, L.T. Elrod, E. Kim*

INOR 775. Kinetics of gold(I) assisted thiolate-disulfide exchange in aqueous media. *S. Pokhrel, G.S. Garusinghe, A.E. Bruce, M.R. Bruce*

INOR 776. Self-assembled peroxidase mimic from guanosine 5'-monophosphate and hemin. *D. Harraz, J. Davis*

THURSDAY MORNING

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Photocatalysis & Photovoltaics

Sponsored by PHYS, Cosponsored by INOR

MEDI

Division of Medicinal Chemistry

A. Stamford, Program Chair

OTHER SYMPOSIA OF INTEREST:

Diminutive Molecules, Big Impact: The Chemistry of ADC Linker-Payloads (see ORGN, Wed)

Drug Design (see COMP, Tue, Wed, Thu)

Frontiers in Organofluorine Research for Biological

Chemistry & Drug Discovery (see BIOL, Wed)

Glycoprotein & Carbohydrate-Based Drugs for Human

Health (see CARB, Tue, Wed)

Nanomaterials in Drug Delivery: Efficacy & Toxicity

Considerations (see TOXI, Wed)

SOCIAL EVENTS:

MEDI Posters & Social, 7:00 PM: Sun, Wed

MEDI Hall of Fame Reception, 5:30 PM: Tue

BUSINESS MEETINGS:

Business Meeting, 5:30 PM: Sun

SUNDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 210 B/C

Small-Molecule Approaches to the Treatment of Inflammatory Bowel Disease

K. S. Currie, Organizer, Presiding

8:30 Introductory Remarks.

8:35 MEDI 1. Oral peptide macrocycle antagonists of integrin α4β7 for the treatment of IBD. *A.L. Roughton, M. Pérez Vázquez, M.M. Morshed, A.P. Kafal, R. Mendoza Sanchez, Y. Boutin, A.K. Yudin, L. Bergeron, J.A. Coull*

9:05 MEDI 2. Discovery & development PTG-100, an oral peptide antagonist of α4β7 integrin, for the treatment of inflammatory bowel disease. *A. Bhandari*

9:35 MEDI 3. Small molecule approaches to the treatment of IBD. *G.D. Glick*

10:05 Intermission.

10:15 MEDI 4. Small-molecule antagonists targeting the NLRP3 inflammasome for treatment of inflammatory diseases. *W.R. Roush, D. Shen, S. Venkatraman, J. Katz, E.J. Olhava, K. Byth, D. Winkler, A. Stutz, D. Bertheloot, S. Braams, A. Kitanovic, I. Kitanovic, P. Trippner, B. Sanchez, X. Lu, L. Franchi, E. Latz, S. Ghosh, D. Dean, A. Opipari, M. Seidel, G.D. Glick*

10:45 MEDI 5. Discovery of a cross-species potent and selective inhibitor of receptor-interacting protein kinase 1 (RIPK1) providing protection in a Nemo deletion model of IBD. *S.D. Patel*

11:15 MEDI 6. BT-11: A new first-in-class oral therapeutic for Crohn's disease and ulcerative colitis that targets LANCL2. *R.D. Gaudour, J. Bassaganya-Riera*

SECTION B

Boston Convention & Exhibition Center
Room 210A

General Oral Session

A. W. Stamford, Organizer

M. Lu, Presiding

8:30 MEDI 7. Impact of synthetic chemistry methodologies in drug discovery. *J. Boström, D.G. Brown, R. Young, G.M. Keseru*

8:50 MEDI 8. Rank ordering compound designs for synthesis: When do methods work and what are some known limitations? *K.P. Cusack, M. Argiriadi, E. Breinlinger, J. Edmunda, D.M. George, F. Michael, M.Z. Hoemann*

9:10 MEDI 9. Design, synthesis, and evaluation of nonretinoid retinal binding protein 4 antagonists for the potential treatment of atrophic age-related macular degeneration and Stargardt disease. *C. Cioffi, K. Petrukhin*

9:30 MEDI 10. Discovery of novel quinoline sulfonamide derivatives as potent, selective and orally active RORγ inverse agonists. *D. Potin, J. Amadrut, M. Argiriadi, M.M. Barth, E. Breinlinger, D. Bressac, P. Broqua, D.J. Calderwood, M. Chatar, K.P. Cusack, S.B. Gauld, S. Jacquet, R.V. Kamath, V. Lepais, J. Luccarini, P. Masson, C. Montalbetti, L. Mounier, O. Poupardin, S. Rouaud, C.D. Wallace*

9:50 MEDI 11. Development of thienopyridines as potent antiproliferative agents. *D. Barker, L.I. Pilkington, M. van Rensburg, N.A. Haverkate, J. Reynissin, W.A. Denny, E. Leung*

10:10 MEDI 12. Development of 4-oxazolindione natural products as infectious disease lead compounds. *J.G. Pierce*

10:30 MEDI 13. Discovery of inhibitors of sirtuin and PARP enzymes from a DNA-encoded chemical library designed to target NAD⁺-binding pockets. *R.M. Franzini, L. Yuen, S. Dana*

10:50 MEDI 14. Complex-selective HDAC inhibitors promote synaptic resilience for therapeutic treatment of neurological disorders. *N.O. Fuller, M.C. Hewitt, M. Ivarsson, J.A. Lowe, B. Lynch, T. McKee, A. Pirone, M. Quinton, A. Rosenberg*

11:10 MEDI 15. Discovery of a novel pyrrolbenzodiazepine DNA-alkylator as an efficacious ADC payload. *B. Wei, J. Dela Cruz Chuh, D. Zhang, Y. Ma, J. Chen, T. Pillow, P.S. Dragovich*

11:30 MEDI 16. Medicinal chemistry centric approach to studying the delivery of diverse pyrrolbenzodiazepine dimers via antibody-drug conjugate technology. *L.R. Staben*

11:50 MEDI 17. Accelerating multiple medicinal chemistry projects using matched molecular pair analysis for knowledge based design: A review from the past 8 years of use at the front line. *A. Dosssetter, E.J. Griffen, A.G. Leach, S. Montague*

Merck Research Award Symposium

Sponsored by WCC, Cosponsored by ANYL, COMP, MEDI and PROF

Bioactives & Neurodegenerative Diseases

Sponsored by AGFD, Cosponsored by MEDI

SUNDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 210 B/C

Awards Session

ACS Award for Creative Invention

Cosponsored by PROF

A. W. Stamford, Organizer, Presiding

1:30 MEDI 18. Award Address (ACS Award for Creative Invention sponsored by the ACS Corporation Associates). Design of kinase inhibitor medicines utilizing protein-ligand structures and property-based efficiency. *R. Kania*

2:10 MEDI 19. Discovery of AZD4573, a potent and selective inhibitor of CDK9 that enables transient target engagement for the treatment of hematological malignancies. *J.G. Varnes, B. Barlaam, C. De Savi, L. Drew, A. Ferguson, D. Ferguson, C. Gu, J. Hawkins, A. Hird, M.L. Lamb, N. O'Connell, K. Pike, T. Proia, M. San Martin, M. Vasbinder, J. Wang, W. Shao*

2:35 MEDI 20. Hit-selection and optimization strategy en route to FGF401, a reversible-covalent inhibitor of FGFR4 for the treatment of hepatocellular carcinoma. *T. Knoepfel, P. Furet, P. Nimsgern, S. Ripoché, M. Kiffe, C. Leblanc, N. Buschmann, R. Mah, D. Graus-Porta, A. Weiss, M. Wartmann, I. Galuba, J. Trappe, R.A. Fairhurst*

3:00 MEDI 21. Discovery of ORIC-101, a potent and selective glucocorticoid receptor antagonist. *Y. Rew, X. Du, J. Eksterowicz, H. Zhou, N. Jahchan, L. Zhu, H. Kawai, X. Yan, L.R. McGee, J.C. Medina, T. Huang, C. Chen, T. Zavorotinskaya, D. Sutimantapani, J. Waszczuk, E. Jackson, E. Huang, Q. Ye, V. Fantin, D. Sun*

3:25 MEDI 22. Structure based design: Identification of the clinical candidate ABBV-744, a first-in-class highly BDII-selective BET bromodomain inhibitor. *L. Wang, G.S. Sheppard, S.D. Fidanze, L.A. Hasvold, D. Liu, J.K. Pratt, M. Bui, E. Faivre, X. Huang, X. Lin, D. Wilcox, Y. Shen, D.H. Albert, W. Kati, K.F. McDaniel*

3:50 MEDI 23. Developing inhibitors of BRAF and RAS mutant cancers. *K. Dalby*

4:15 MEDI 24. Discovery and optimization of potent, selective, and orally available IDO1 heme-binding inhibitors featuring a novel A-pocket piece. **H. Zhang, A. Achab, M.J. Ardolino, X. Chai, M. Cheng, Y. Deng, A. Doty, H. Ferguson, X. Fradera, I. Knemeyer, C. Li, K. Liu, T.A. Martinot, M. McGowan, R. Miller, K. Otte, Q. Pu, B. Purakattile, N. Sciammetta, N. Solban, X. Song, P. Spacciopoli, A. Wise, W. Yu, H. Zhou, D.J. Bennett, Y. Han**

4:40 MEDI 25. Discovery of a selective, non-nucleoside small molecule inhibitor of DNA methyltransferase 1 (DNMT1). **B.W. King, A.B. Benowitz, J. Briand, C. Burt, C. Carpenter, M. Cockerill, K.A. Evans, D.T. Fosbenner, J. Handler, D.A. Heerding, A.M. Jordan, K. Keenan, R. Kruger, M. Li, J. Luengo, M. McCabe, C. McHugh, E. Minthorn, H. Mohammad, M.B. Pappalardi, M. Patel, A. Raoof, S. Romeril, L. Rueda, C. Sherk, A. Stowell, I. Waddell, K. Wong**

5:05 MEDI 26. Preventing regulatory T cell trafficking into the tumor microenvironment: Discovery of potent and selective CCR4 antagonists. **D.X. Hu, B. Abraham, B. Biannic, M.H. Bui, D. Chian, G. Cutler, J.J. Jackson, S. Jacobson, E. Karbarz, P. Kassner, J.M. Ketcham, L. Marshall, J. McKinnell, D. Pookat, M. Reilly, O. Robles, H. Shunatona, O. Talay, J. Walker, A. Wadsworth, A. Younai, M. Zibinsky, D.J. Wustrow**

SECTION B

Boston Convention & Exhibition Center
Room 210A

Emerging Trends in Target Identification

N. A. Meanwell, Organizer

A. K. Mapp, S. Niessen, P. M. Scola, K. Yeung, Organizers,
Presiding

1:30 Introductory Remarks.

1:35 MEDI 27. Enabling chemical biology in oncology discovery. **S. Niessen**

2:10 MEDI 28. Revealing the druggable genome using chemical proteomics. **L. Jones**

2:45 MEDI 29. Expanding the druggable proteome: Ligand and target discovery by fragment-based screening in cells. **C. Parker, A. Galmozzi, Y. Wang, B. Correia, E. Saez, B. Cravatt**

3:20 MEDI 30. Target class platform accelerates deubiquitinase early discovery efforts. **S. Buhrlage, E. Weisberg, N. Schauer, X. Liu, J. Yang, I. Lamberto**

3:55 MEDI 31. Molecular visualization of tissues by MALDI imaging MS: Applications in drug discovery and development. **S. Castellino**

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Bioactives & Neurodegenerative Diseases

Sponsored by AGFD, Cosponsored by MEDI

SUNDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B1

General Poster Session

A. W. Stamford, Organizer

7:00 – 9:00

MEDI 32. Drug repurposing for schistosomiasis with assay central. **K.M. Zorn, E.K. Chen, C.L. McCannon, A. Clark, C.R. Caffrey, S. Ekins**

MEDI 33. Diaminopurines: structure activity relationships and structure property relationships towards a lead for human African trypanosomiasis inhibitors. **B. Singh, R. Diaz, G. Ceballos, D. Rojas, M. Martinez-Martinez, P. Manzano-Chinchon, M. Navarro, M.P. Pollastri**

MEDI 34. SAR exploration of a novel series of compounds for human African trypanosomiasis. **M.J. Buskes, R. Diaz, G. Ceballos, M. Navarro, M.P. Pollastri**

MEDI 35. Extraction and characterisation of an anti trypanosomal compound from the seeds of *Cassia occidentalis*. **S.A. Ogbuagu**

MEDI 36. Optimization of pyrazolo[1,5-b]pyridazines for the treatment of human African trypanosomiasis. **W. Tear, S. Bag, R. Diaz, G. Ceballos, C. Cordon-Obras, D. Rojas, M. Martinez-Martinez, P. Manzano-Chinchon, M. Navarro, M.P. Pollastri**

MEDI 37. SAR and ADME optimization of pyrazolopyridine-based human PDE4 inhibitors for human African trypanosomiasis. **A. Spaulding, R. Leurs, H. de-Koning, D. Brown, M.P. Pollastri**

MEDI 38. Hit-to-lead optimization of 3,5-disubstituted-7-azaindoles for human African trypanosomiasis. **D. Klug, L. Silva, K.C. Forbes, R. Diaz, G. Ceballos, C. Cordon-Obras, M. Martinez-Martinez, P. Manzano-Chinchon, M. Navarro, M.P. Pollastri**

MEDI 39. Repurposing as a strategy for the discovery of a new antileishmanial. **R. Charlton, P.G. Steel, P. Denny, B. Rossi Bergmann**

MEDI 40. Probing key elements of teixobactin-lipid ii interactions in membrane. **P. Wen, J.M. Vanegas, S.L. Remppe, E. Tajkhorshid**

MEDI 41. Design and synthesis of dual-acting quorum sensing inhibitors to suppress the virulence program of *Pseudomonas aeruginosa*. **A. Hossain, N.A. German**

MEDI 42. TAT-functionalized pH-sensitive liposomes for the treatment of bacterial meningitis. **C. Bartomeu Garcia, D. Shi, T. Webster**

MEDI 43. Strategies for restoring β -lactam activity against antibiotic resistant bacteria. **M.A. Boudreau**

MEDI 44. Bio-orthogonal chemistry-based approach for targeted treatment of bacterial infections. **N. Yee, J. Mejia Oneto, M. Royzen, K. Wu**

MEDI 45. Development of aminoglycoside resistance enzyme inhibitors as a means to rescue antibiotic activity. **M.R. Leung, K.C. Leckett, X. Li, A. Chaudhry, M. Keramane, A. Capretta**

MEDI 46. Specific structure variations of chimera ligand molecules for controlling bacterial drug-tolerance and persister formation. **F. Burns, Y.Y. Luk**

MEDI 47. Non-traditional antibiotic strategies targeting siderophore utilization in human pathogenic *Acinetobacter baumannii*. **T. Bohac, J.A. Shapiro, T.A. Wenczewicz**

MEDI 48. Semisynthetic analogues of anhydrotetracycline as potential inhibitors of tetracycline destructase enzymes. **J.L. Markley, L. Fang, A.J. Gasparini, C.T. Symister, H. Kumar, G. Dantas, N. Tolia, T.A. Wenczewicz**

MEDI 49. Potentiating penicillins, carbapenems, and cephalosporins to kill MRSA. **C.V. Rice, M. Foxley, A.K. Lam, A. Ly, M. Harney, E. Moen, B.A. Wilson**

MEDI 50. Discovery of indole- and indazole-acylsulfonamides as potent and selective Na_{1.7} inhibitors for the treatment of pain. **G. Luo, L. Chen, A. Easton, A. Newton, C. Bourin, E. Shields, K. Mosure, M. Soar, R. Knox, M. Matchett, R. Pieschl, D. Post-Munson, S. Wang, J. Herrington, J. Graef, K. Newberry, L. Bristow, N. Meanwell, L.A. Thompson, C.D. Dzierba**

MEDI 51. Discovery of new indole-based acylsulfonamide Nav1.7 inhibitors. **Y. Wu, B. Venables, J. Guernon, J. Chen, S. Sit, R. Rajamani, R. Knox, M. Matchett, R. Pieschl, J. Herrington, L. Bristow, N. Meanwell, L. Thompson, C.D. Dzierba**

MEDI 52. Structure-based design to improve the selectivity of kinase inhibitors in cancer therapy. **A. Assadieskandar, C. Yu, C. Zhang**

MEDI 53. Design and synthesis of selective imidazo[1,2-b]pyridazine and pyrazolo[1,5-a]pyrimidine inhibitors of leucine-rich repeat kinase 2 (LRRK2) using a checkpoint kinase 1 (CHK1)-derived crystallographic surrogate. **S.C. Ray**

MEDI 54. Quantitative characterization of bivalent probes for the dual bromodomain protein transcription initiation factor TFIID subunit 1, TAF1. **J.L. Suh, B. Watts, J.J. Stuckey, J.L. Norris-Drouin, S.H. Cholensky, B.M. Dickson, Y. An, S. Mathea, E. Salah, S. Knapp, A. Khan, A.T. Adams, B.D. Strahl, C.A. Sagum, M.T. Bedford, L.I. James, D. Kireev, S.V. Frye**

MEDI 55. Nanoparticles with targeting and ROS triggering properties as an antigen delivery system. **X. Liang, J. Duan, Y. Chen, H. Li, C. Li, J. Yang**

MEDI 56. Identification of receptor interacting protein kinase 3 (RIPK3) type II inhibitors using high-throughput mechanistic studies in hit triage. **A.C. Hart, L.M. Abell, C. Weigelt, J. Guo, M. Mertzman, C. Chaudhry, H. Lu, R. Padmanabha, M. Pokross, K. Kish, A. Douglas, D. Columbar, P. Zhang, B. Carpenter, J.E. Macor, W.J. Pitts**

MEDI 57. Application of organocatalysis in bioorganometallic chemistry: Asymmetric synthesis of multifunctionalized spirocyclic pyrazolone-ferrocene hybrids as novel RalA inhibitors. **B. Han, W. Huang, C. Peng**

MEDI 58. Organocatalytic cascade reaction for asymmetric synthesis of novel chromane-fused spirooxindoles that potentially inhibit cancer cell proliferation by inhibiting MDM2-p53 interaction. **W. Huang, B. Han, C. Peng**

MEDI 59. Discovery of EOS789: A novel inhibitor of NaPi-IIb, Pit-1 and Pit-2 for hyperphosphatemia. **N. Hari, A. Kimbara, N. Okamoto, Y. Murata, Y. Ohtake, Y. Ono, S. Tanaka, E. Mizuguchi, T. Harada, K. Tachibana, M. Ide, K. Nomura, H. Kashiwagi, R. Hirokane, K. Morikami, S. Ohtomo, Y. Ichida, Y. Tsuboi, N. Horiba, K. Yamaguchi, T. Takahashi**

MEDI 60. Novel conformational-restricted endocannabinoid probes with improved metabolic stability. **L. Ji, S. Nikas, Y. Liu, M. DSouza, S.N. Kudalkar, O. Benchama, A. Korde, C. Honrao, S. Mallipedi, S. Wu, S. Xu, N. Zvanok, L.J. Marnett, A. Makriyannis**

MEDI 61. Mono and bifunctional cannabinoid receptor probes. **S. Jiang, S. Nikas, C. Iliopoulos Tsoutsouvas, W. Zhang, S. Wu, J. Raghav, J. Anderson, A. Makriyannis**

MEDI 62. Discovery of small-molecule Bax activators for the treatment of triple-negative breast cancer. **G. Liu, D. Li, H. Chen, Y. Ding, Q. Shen, J. Zhou**

MEDI 63. Design, synthesis, and structure-activity relationships (SARs) of novel series of irreversible LSD1 inhibitors with improved hematological liability. **Y. Hattori, S. Morimoto, M. Toyofuku, S. Matsumoto, S. Matsuda, R. Baba, Y. Tominari, M. Iwatani, H. Oki, S. Iwasaki, M. Ito**

MEDI 64. Folic acid derived-P5779 mimetics regulate DAMP-mediated inflammation through disruption of HMGB1:TLR4:MD-2 axis. **S. Sun, M. He, Y. Wang, H. Yang, Y. Al-Abed**

MEDI 65. Design, synthesis, and evaluation of functionalized 5-(phenoxyethyl)-1,3-dioxane analogs as potential treatments for metabolic syndrome. **B.E. Bliss, P. Iyer, M. Abou-Gharbia, W.E. Childers, J.C. Gordon, M. Ramanjulu, G.C. Morton, P. Arumugam, J. Boruwa, J.W. Ellingboe, S. Mitra, R. Nimmareddy, S. Palival, J. Rajasekar, S. Shivakumar, P. Srivastava, R.S. Tangirala, K. Venkataramanaiah, M. Yanaandra, R. Bobbala, K.R. Leleti**

MEDI 66. New class of mononuclear ruthenium complexes as antimicrobial agents. **B. Sun, R. Keene, G. Collins**

MEDI 67. Suitable chemical library for academic researchers in Japan. **H. Kojima**

MEDI 68. Antisense-mediated knockdown of host selenoprotein expression in ZIKV infected cells via targeting of cellular mRNA by viral RNA. **G.P. Dailey**

MEDI 69. Inhibitors of cytochrome P450 17A1 that spare 21-hydroxylase activity. **C.D. Vogt, C. Fehl, R. Yadav, K. Li, E.E. Scott, J. Aube**

MEDI 70. Highly selective purine based covalent CDK12 inhibitors. **J.W. Johannes, C. Denz, N. Su, A. Wu, A. Impastato, S. Mlynarski, J. Varnes, B. Prince, J. Cidado, N. Gao, M. Haddrick, N. Jones, S. Li, X. Li, Y. Liu, T. Nguyen, N. O'Connell, E. Rivers, D. Robbins, R. Tomlinson, T. Yao, X. Zhu, A. Ferguson, M.L. Lamb, J. Manchester, S. Guichard**

MEDI 71. Discovery, characterization and anti-Parkinsonian effect of a novel mGluR4 PAM chemical series. **A. Blayo, B. Manteau, S. Mayer, S. Schann, M. Frauli, D. Charvin**

MEDI 72. Investigation of the chemical space for brain penetrable, carboxylic acid-containing compounds: Expanding the area available for CNS drug discovery. **Y. Ohashi, D. Hasegawa, M. Katake, T. Kurokawa, T. Nishioka, I. Kushida, T. Yoshida, T. Mochizuki, M. Yamamoto, T. Komori, Y. Yoshida, K. Takeda, T. Terauchi**

MEDI 73. Discovery of the clinical candidate OWL833 as an orally active non-peptide GLP-1R agonist. **H. Yoshino, S. Tsuchiya, A. Matsuo, M. Nishimoto, K. Takami, K. Hiroko, Y. Nishimura, Y. Furuta, T. Kamon, N. Hori, T. Shiraishi, H. Kashiwagi, A. Mizutani, F. Kawagishi, M. Ide, T. Haneishi, S. Yeu, M. Sugiyama, T. Emura, S. Nizuma, M. Wadamoto, T. Kawai, S. Yoshida, Y. Suzuki, K. Ogawa, S. Nagao, S. Tanida, M. Aoki, T. Sato, H. Sato**

MEDI 74. Fluorinated (R)-(-)-aporphines as potential agonist positron emission tomography ligands for serotonergic 5-HT_{1A} receptor. **Y. Xu, A.W. Sromek, J.L. Neumeier**

MEDI 75. Synthesis of ergoline-based analogs. **A. Szabolcs, V. Ujji, J. Gerencsér, M. Guzman, T. Armer, S. Borland**

MEDI 76. Syntheses of 2-substituted oxetan-3-amines .

L. Zhang, G. Liu, H. Li, X. Wu, M. Yang

MEDI 77. Exploration of strained saturated heterocycles as isosteres in medicinal chemistry. **C. Choi, J. Mousseau, J.A. Bull**

MEDI 78. Synthesis and evaluation of novel BACE1 inhibitors based on the N-amidino nitrogen-containing ring structure. **K. Kobayashi, D. Joho, C. Taniguchi, M. Tanaka, R. Kimura, K. Komurasaki, Y. Kawasaki, Y. Hattori, K. Akaji**

MEDI 79. Design of potent and selective inhibitors for human β -secretase 1 (memapsin 2), a target for Alzheimer's disease. **A.K. Ghosh, E.L. Cardenas**

MEDI 80. Design, synthesis and validation of small molecules that sensitize HIV-1 infected cells to antibody dependent cellular cytotoxicity (ADCC). **M.C. Grenier, S. Ding, A. Finzi, A.B. Smith**

MEDI 81. Porphyrins - A gift of nature to eradicate cancer? (Photodynamic therapy). **Z.S. Berthe, E.C. Ojadi**

MEDI 82. Discovery of novel phosphonate prodrugs by de novo rational design. **M. De Lera Ruiz, I.T. Raheem, M.T. Rudd, J. McCauley, J. Schreier, T.J. Hartingh, B. Ma, H. Aloysius, S. Carroll, M. Lai, J. Balsells-Padros, A. Bennet**

- MEDI 83.** Design, synthesis and *in vitro* evaluation of dual inhibitors of phosphatidylinositol-3-kinase delta (PI3K δ) and histone deacetylase 6 (HDAC6). **A. Thakur, G. Grewal, G.J. Tawa, M. Henderson, C. Danchik, T.D. Lee, A. Simeonov**
- MEDI 84.** Development of chemical probes targeting ASH1L histone methyltransferase. **H. Li, J. Deng, D. Rogawski, S. Klossowski, T. Purohit, K. Kempinska, E. Kim, M. Szweczyk, Z. Jin, D. Borkin, D. Montgomery, J. Ndoj, H. Cho, H. Miao, J. Grembecka, T. Cierpicki**
- MEDI 85.** Discovery of lenilisol (CDZ173), a potent and selective new generation PI3K δ inhibitor for autoimmune and inflammatory diseases. **N.G. Saldernann**
- MEDI 86.** Efficacy of compounds derived from a native medicinal plant against common wound-colonising bacteria. **V.A. Agampodi, T. Collet**
- MEDI 87.** Novel 2-*arachidonoyl* glycerol analogs with enhanced bio-activities and stabilities: Design, synthesis and *in vitro* biochemical evaluation. **Y. Liu, S. Nikas, L. Ji, A. Korde, A. Ciesielski, A. Straiker, O. Benchama, A. Dhopeshwarkar, C. Honrao, K. Mackie, A. Makriyannis**
- MEDI 88.** Indole-based positive allosteric modulators for targeting CB $_1$ receptor to overcome neuropathic pain. **A. Resendez, K. Kumar, V. Kumar, B.K. Kobilka, S. Malhotra**
- MEDI 89.** Synthesis of new benzodiazepines that function as α_5 -GABA $_A$ receptor ligands to target group 3 medulloblastomas. **F. Rashid, G. Li, T. Ahmed, O. Jonas, S. Sengupta, J.M. Cook**
- MEDI 90.** Synthesis and biological evaluation of novel imidazo[2,1-*b*]oxazole derivatives as V600E BRAF inhibitors for treatment of melanoma. **M.S. Abdel-Maksoud, M.I. El-Gamal, U.M. Ammar, E.M. Ali, K.I. Mersal, H.S. Choi, C.H. Oh**
- MEDI 91.** Using bacterial cytological profiling to determine the mechanism of action of antimicrobial peptides. **S.A. Juliano, S.S. Duay, A.M. Angeles Boza**
- MEDI 92.** Novel CMKLR1 inhibitors and structure activity relationship studies for application in demyelinating disease. **V. Kumar, M. Lalevic, B.A. Zobel, S.V. Malhotra**
- MEDI 93.** Small molecules facilitating DNA repair in breast cancer cells. **M. Pandrala, K. Hastak, V. Kumar, M. Gardiner, J.M. Ford, S.V. Malhotra**
- MEDI 94.** Novel chalcone derivatives as potential therapeutic agents for triple negative breast cancer. **V. Kumar, C.C. Going, D. Tailor, M. Pandrala, A.M. Birk, S. Pitteri, S.V. Malhotra**
- MEDI 95.** Prevention of trigeminal neuropathic pain development in rats using novel deuterated GABA $_A\alpha 6$ subtype selective ligands. **D.E. Knutson, D. Vasovic, B. Divovic, M. Treven, F. Steudle, P. Scholze, B. Brkovic, W. Sieghart, M. Ernst, J.M. Cook, M.M. Savic**
- MEDI 96.** Design and synthesis of proanthocyanidin derivatives as an inhibitor of amyloid β aggregation. **M. Mizuno, K. Mori, I. Nakanishi, K. Matsumoto, M. Shibamura, K. Fukuhara**
- MEDI 97.** Efficient synthetic methodology for the construction of dihydronaphthalene and benzosuberene molecular scaffolds with application as potent inhibitors of tubulin polymerization. **H. Niu, D. Mondal, T.E. Strecker, J. Gerberich, J.W. Campbell III, D. Saha, D.J. Chaplin, E. Hamel, R.P. Mason, M.L. Trawick, K.G. Pinney**
- MEDI 98.** Design, synthesis, and structure-activity relationships of pyrido[3,2-*d*]pyrimidines as microtubule targeting agents that are effective against Pgp and BII-tubulin overexpressing cancer cells. **A. Gangjee, A.B. Doshi, E. Hamel, S. Mooberry**
- MEDI 99.** Pyrazolo[4,3-*d*]pyrimidines: A novel scaffold for microtubule-targeting agents (MTAs). **F. Islam, T.M. Quadery, R. Bai, E. Hamel, A. Gangjee**
- MEDI 100.** Investigating the binding modes and structure-activity relationships of small molecule FPR2 agonists using receptor homology modelling. **M. Maciuszek, T. Chapman, G. Nicoales, K. Birchall, C. Reutelingsperger, M. Perretti, A. Merritt**
- MEDI 101.** Synthesis and characterization of imidazopyrazine derivatives as VAV1 inhibitors. **M. Gerspacher, P. Skaanderup, P. Imbach-Weese, L. Doumampouou Metoul, E. Roehn-Carmelolla, D. Arz, A. Garlot, A. Remond, V. Eric, M. Knapp, A. Lingel, V. Stucke, P. Chene, F. Hofmann**
- MEDI 102.** Synthesis of novel chloramphenicol derivatives as ribosome-targeting antibiotics. **P.I. Fernando, S.T. Gregory, S. Donhue, B.L. DeBoef, P. Cesana, J. Gerwald**
- MEDI 103.** Synthesis and evaluation of α,β -unsaturated phosphonate esters as DXR inhibitors. **K. Heide, R. Edwards, S. Arnett, H.I. Boshoff, M.J. Meyers, A.R. Odum, C.S. Dowd**
- MEDI 104.** Design, synthesis and evaluation of novel antimalarials targeting apicoplast DNA polymerase (apPOL) from *P. falciparum*. **P. Chheda, R.J. Kerns**
- MEDI 105.** Microwave assisted synthesis and characterization of 4-aminopyridine (ampyra) derivatives and their applications. **M.A. Abusultan, Y.M. Hijji**
- MEDI 106.** Preliminary evaluation of novel serotonin antagonists as potential antidepressant agents. **H. Girattallah, K.M. Blattner, J.C. Gordon, D.A. Pippin, B.E. Blass, D.J. Canney**
- MEDI 107.** Design, synthesis and bioactivity testing of azotochelin analogs as potential antibiotics. **N.M. Karadkhekar**
- MEDI 108.** Discovery of AM-2995, a potent, selective and orally bioavailable APJ agonist for the treatment of heart disease. **Z. Ma, X. Wang, M. Wanska, L. Heumann, R. Connors, F. Kayser, J.C. Medina, Q. Guo, Y. Chen, R. Chen, Y. Zhang, J. Ma, J. Shi, J. Wong, G. Swaminath, J.B. Houze**
- MEDI 109.** Chemical modification and structure activity relationship (SAR) evaluation of Fellutamide B. **N. Acharekar, S. Yoganathan**
- MEDI 110.** Tantalum oxide nanoparticles for use in contrast enhanced computed tomography. **T. Lawson, A. Patwa, J. Freedman, B.D. Snyder, M.W. Grinstaff**
- MEDI 111.** Small molecule quinolone derivatives that increase survival motor neuron protein via an SMN2 gene transcription enhancing mechanism. **D.K. Fiejtek, J. Ahn, A. Rietz, H. Li, E.J. Androphy, K.J. Hodgetts**
- MEDI 112.** Biostructural optimisation of a piperazine amide based series of Liver X Receptor (LXR) agonists. **A. Cooke, X. Fradera, D.J. Bennett**
- MEDI 113.** Synthesis and evaluation of the metabolites of GLS362E, an anti-*Clostridium difficile* lead compound. **A. Marashio, B. Urbina, W. Xu, R. Lima**
- MEDI 114.** Comparing and validating machine learning models for *Mycobacterium tuberculosis* drug discovery. **T. Lane, D.P. Russo, K.M. Zorn, A. Clark, A. Korotcov, V. Tkachenko, R. Reynolds, A.L. Perryman, J.S. Freundlich, S. Ekins**
- MEDI 115.** Selective sulfa drug acylations for antitubercular drug design. **M.J. Hearn, C. Pugh, M.H. Cynamon**
- MEDI 116.** Strained amine heterocycles as non-hydrolyzable β -lactam surrogates: Mechanistic probes for *Mycobacterium tuberculosis*. **S.M. Scarry, D. Cesta, T. Abramyan, B. Gold, L. Lopez Quezada, K. Saito, D. Kireev, S. Somersan Karakaya, C.F. Nathan, J. Aube**
- MEDI 117.** Synthesis of Pan-CMP mimics to inhibit CoaBC. **H. Butman, X. Wang, R.C. Brothers, V. Mizrahi, J.C. Evans, E. Strauss, C.S. Dowd**
- MEDI 118.** Synthesis and antimycobacterial activity of new *N*-oxide compounds active against multi-resistant tuberculosis. **P.C. Souza, G.F. Fernandes, L.B. Marino, C.M. Ribeiro, P.B. da Silva, M. Chorilli, C.S. Silva, D.M. Hunt, L.S. de Carvalho, C.D. Costa, S.H. Cho, Y. Wang, S.G. Franzblau, C. ManChin, F.R. Pavan, J.L. Dos Santos**
- MEDI 119.** Development of high affinity agonist ligands for the D2 receptor: Potential PET imaging agents. **A. Nurani, Y. Xu, A.W. Sromek, J.L. Neumeyer**
- MEDI 120.** Pharmacophore models for inhibitors of DNA methyltransferases. **F. Ruiz-Rios, F.I. Saldívar-González, J.L. Medina-Franco**
- MEDI 121.** Alpha-substituted tropolones as potential anti-blood cancer therapeutics. **J. Li, E. Falcone, D. Wright, A.J. Wiemer**
- MEDI 122.** HIV protease as a target for novel antiretroviral therapies. **I.W. Windsor, B. Gold, D.M. Dudley, B. Graham, M.J. Palte, J.C. Lukesh, T.P. Smith, K.T. Forest, D.H. O'Connor, R.T. Raines**
- MEDI 123.** Structure-based design, synthesis, evaluation and x-ray crystal structure analysis of HIV-1 protease inhibitors with modified P1, P1' and P2' groups. **L. Ruser, A. Ali, G.L. Lockbaum, S. Lee, R. Swanstrom, C.A. Schiffer**
- MEDI 124.** Design and synthesis of novel tricyclic 3,4-dihydro-2H-pyrido[1,2-*a*]pyrazine-1,6-dione derivatives as gamma-secretase modulators. **F. Bischoff, F. Van den Keybus, F. Rombouts, M. Mercken, H. Gijzen**
- MEDI 125.** Enterovirus inhibitory activity of substituted urea and thiourea derivatives of *p*-benzene sulfonamide. **P. Chakrasali, H. Soo Bong, Y. Jung**
- MEDI 126.** Design and synthesis of some novel 6,7-dimethoxyquinazoline analogs as multi-target-directed ligands for the treatment of hypertension. **R.B. Ghuge, N. Agrawal, B. Pithwa, A. Khadse, P.R. Murumkar, M. Yadav**
- MEDI 127.** Synthesis and characterization of ibuprofen and diclofenac prodrugs. **J.J. James, H.D. Tabba, Y.M. Hijji**
- MEDI 128.** 4,6-Disubstituted quinazoline derivatives as inhibitors of the MEK5/ERK5 pathway. **S. Patel, A.J. Motta, P.T. Flaherty, A. Bhatt, T. Wright, J. Cavanaugh**
- MEDI 129.** Selective allosteric inhibition of MEK5: novel target for cancer therapeutics. **M. Gupta, D. Shah, P.T. Flaherty, T. Wright, A. Bhatt, J. Cavanaugh**
- MEDI 130.** SAR study of novel heterocyclic acylhydrazones as anti-fungal agents targeting the synthesis of fungal GlcCer. **Y. Sun, K.H. Haranahalli, C. Lazzarini, M.D. Poeta, I. Ojima**
- MEDI 131.** 1H-pyrrolo[3,2-*b*]pyridine GluN2B-selective NMDA antagonists. **A. Soyade-Johnson**
- MEDI 132.** Discovery of linear and cyclic tetrapeptides inhibitors of Y-49 β -lactamase by structure-based drug design (SBD) and molecular docking platforms empowered by MOE, AutoDock Vina and StarDrop-ADMET (Optibrium) module. **J. Gonzalez, C.C. Clement**
- MEDI 133.** Strategies for synthesis of various aza- β -lactam derivatives as potential β -lactamase inhibitors. **J. Fifer, M.A. Boudreau**
- MEDI 134.** Development of thiol containing open lactam analogues targeting metallo-beta-lactamases. **M. Ohoueu, M.A. Boudreau**
- MEDI 135.** Synthesis and structure-activity relationships of quinoline and quinoline-based P2X7 receptor antagonists and their anti-sphere formation activities in glioblastoma cells. **S. Kwak, B. Ko, W. Kim, J. Lee, J.H. Jung, Y. Kim**
- MEDI 136.** Synthesis of CD437 analogs: compounds with MRSA persister cell activity and antibiotic synergy. **W. Kim, C. Keohane, A. Steele, W.M. Wuest, F.M. Ausubel, E. Mylonakis**
- MEDI 137.** Synthesis, pharmacological activity and molecular modeling studies of a series of 2-amino-1,4,5,6-tetrahydropyrimidine-5-carboxylic acid analogues as betaine/GABA transporter 1 (BGT1) substrate-inhibitors. **S. Kicking, A. Al-Khawaja, A. Stæhr Haugaard, R. Löffler, M. Damgaard, G.F. Ecker, B. Frølund, P. Wellendorph**
- MEDI 138.** Development of chemical tools for epigenetic reader proteins. **J. Waybright, K.D. Barnash, J. Rectenwald, S.V. Frye, L.I. James**
- MEDI 139.** Novel and highly selective dopamine D $_3$ receptor antagonists/partial agonists as potential treatments for opioid use disorders. **A. Shaik, A. Bonifazi, S. Cernaj, J. Giancola, A. Gadiano, R. Rais, B. Slusher, A.H. Newman**
- MEDI 140.** Annulation rescues the rodent potency of a series of inhibitors of receptor-interacting protein kinase 1 (RIPK1). **G. Hamilton**
- MEDI 141.** Design, synthesis and biological evaluation of nitrate ester analogs of SCP-1. **M. Das, N.G. Bazan, M. Trudell**
- MEDI 142.** Small organic molecules to modulate apoE, abca1, & LDLR protein levels for Alzheimer's therapy. **B.S. Bajwa, P. Kumar, B. Kim, H. Karahan, I. Bal, J. Kim, S. Maitra**
- MEDI 143.** Discovery, synthesis and characterization of a series of (1-alkyl-3-methyl-1H-pyrazolo-5-yl)-2-(5-aryl-2H-tetrazol-2-yl)acetamides as novel GIRK1/2 potassium channel activators. **S. Sharma, K.A. Kozek, K.K. Abney, D. Weaver, C. Hopkins**
- MEDI 144.** Structure-based drug discovery of a selective, covalent KRas G12C inhibitor with oral activity in animal models of cancer. **J.P. Fischer, B.R. Baer, J. Ballard, J.F. Blake, K. Bouhana, B.J. Brandhuber, D.M. Briere, L.E. Burgess, M.R. Burkard, H. Chiang, M.J. Chicarelli, J.G. Christensen, K. Davidson, J.J. Gaudino, J. Hallin, L. Hanson, K. Hee, E.J. Hicken, R.J. Hinklin, M.A. Marx, M.J. Mejia, P. Olson, P. Savechenkov, N. Sudhakar, T.P. Tang, G.P. Vigers, H. Zecca, J.B. Fell**
- MEDI 145.** Disruption of D1-D2 heterooligomers via synthetic peptides: A new therapeutic tool? **M. Champion, P. Khazaei, H. Evans, D. Heyl-Clegg**
- MEDI 146.** Synthesis and structure-activity relationship (SAR) studies of novel Pyrazolopyridine derivatives as inhibitors of Enterovirus replication. **Y. Xing, J. Zuo, P. Krogstad, M.E. Jung**
- MEDI 147.** Template alignment modeling of the structure-activity relationships of opioid ligands. **Z. Wu, V.J. Hruby**
- MEDI 148.** Overcoming fluoroquinolone resistance in bacterial with new binding interactions. **B.H. Williamson, R.J. Kerns**
- MEDI 149.** Towards the design of proteolysis targeting chimeras (PROTACs) for the degradation of polycomb group proteins. **F.M. Potjewyd, K.N. Lamb, O. Bell, L.I. James, S.V. Frye**
- MEDI 150.** Characterization of new CRBN binders: Impact on protein degradation efficiency and differentiated pharmacology compared to IMiDs. **N. Ji, Y. Zhang, M. Weiss, K. Hari, K. Yuan, J. Chen, J.F. Kelleher, C. Loh, N. Mainolfi**
- MEDI 151.** Identification of novel cyclic peptide-peptid hybrid CXCR7 modulators. **C. Limberakis, M. Boehm, K. Beaumont, R. Jones, A.S. Kalgutkar, L. Zhang, K. Atkinson, G. Bai, J. Brown, H. Eng, G.H. Geung, B. Khunte, S. Lazzaro, S. Ryu, L. Tylaska, R. Turner, S. Leont, M. Ramaseshan, D. Price, S. Liras, M.P. Jacobson, D.J. Earp, S. Lokey, A. Mathiowetz, E. Menhaji-Klotz**

- MEDI 152.** Synthesis and biological evaluation of N9-cyclobutylpurine derivatives for use as cyclin-dependent kinase(CDK) inhibitors. *J. Ha, S. Park, E. Kim, M. Yoo, J. Lee, C. Park, J. Hwang*
- MEDI 153.** CXCR2 receptor antagonists for the treatment of colorectal cancer. *C. Black, K.C. Nagulapalli Venkata, M. Labonte Wilson, H. Lenz, S.G. Louie, N.A. Petasis*
- MEDI 154.** Pheophorbide a suppresses toll-like receptor signaling via IKK β /NF κ B/TBK1/IRF3 to improve survival in septic mice. *K. Taekyung*
- MEDI 155.** Fragment-based discovery of pyrazolopyridones as JAK1 inhibitors with excellent subtype selectivity. *A. Ritzen, T. Vifian, R. Sindet, B.B. Hansen, M. Larsen, T.H. Jepsen, J. Larsen, J.G. Seitzberg, S. Rai, V.R. Nasipreddy, M.A. Carnerup, A. Jerre, C. Mølck*
- MEDI 156.** Synthesis and biological evaluation of some novel heterocyclic compounds as potential anti-thrombotic agents. *A.N. Khadse, S. Khan, N. Prajapati, R.B. Ghuge, P.R. Murumkar, S. Rajput, M. Yadav*
- MEDI 157.** Inducing the activity of NK cells with NKp30 small organic ligands. *P. Pinheiro, G.C. Justino, J.P. Miranda, M. Marques*
- MEDI 158.** Exploration of (hetero)aryl derived thienylchalcones for antiviral and anticancer activities. *V. Patil, S.A. Patil, R. Patil, A. Bugarin, K. Beaman, S. Patil*
- MEDI 159.** Rapid and accessible *in silico* macrocycle design - application to BRD4. *S. Sciammetta, M. Bauer, R. Scoffin, G. Tedesco, M.D. Mackey*
- MEDI 160.** Structure-based design of inhibitors for STE20-like kinase (SLK). *R.A. Serafini, S. Vasconcelos, W. Zuercher, T. Willson, J. Bennett, F. Sorrell, K.B. Massier, J.M. Elkins*
- MEDI 161.** Discovery and structure-activity relationship study of dihydroprano [2,3-c] pyrazoles as inhibitors of USP7. *A. Pepe, N. Hjortland, A.D. Mesecar*
- MEDI 162.** Discovery of novel hVMAT2 ligands. *B.A. Provencher, A.J. Eshleman, R.A. Johnson, O. Kryatova, J. Nelson, J. Tian, P.C. Meltzer, A. Janowsky*
- MEDI 163.** Discovery of selective filiviral inhibitors through phenotypic screening of an aryl-naphthalene lignan library. *A. Lindstrom, D.P. Petrov, V.J. Davison*
- MEDI 164.** How far can we use human serum transferrin to transport drugs? *G.C. Justino, M. Marques*
- MEDI 165.** Optimization of penfluridol for use in anticancer therapy. *M. Ashraf Uz Zaman, M. Sajib, C. Mikelis, N.A. German*
- MEDI 166.** Photochemical release of glycine from excited state dendrimer: An example of novel drug delivery. *J.I. Lee, J. Kang*
- MEDI 167.** Metal binding antimicrobial peptides. *J. Portelinha, A.M. Angeles Boza, S. Cobb*
- MEDI 168.** Roles of mitochondrial fusion promoter in ischemia/reperfusion injury. *S. Hou*
- MEDI 169.** Synthesis, characterization, cytotoxic and genotoxic evaluation of N⁶-benzylquinazoline-2,4,6-triamine derivatives. *A. Matus-Meza, M. Herrera-Martínez, B. Chávez-Munguía, P. Talamás-Rohana, M. Velasco-Velazquez, C. Ordaz-Pichardo, F. Hernández-Luis*
- MEDI 170.** Homology model template selection benchmarking: Global versus local similarity measures. *P. Castleman, A.L. Parrill-Baker, D.L. Baker*
- MEDI 171.** Phototoxicity of 7-oxycoumarins with keratinocytes. *J. Saxena, J. Laskin, D. Heck, C.D. Guillon, N.D. Heindel*
- MEDI 172.** Antibacterial activities of aurafin analogs. *B. Wu, X. Yang, M. Yan*
- MEDI 173.** Selective targeting of breast cancer brain metastases by cisplatin prodrug nano-formulation. *B. Surnar, S. Dhar*
- MEDI 174.** NAADP-BODIPY dye conjugates for characterizing NAADP binding proteins. *Z. Guan, J. Slama*
- MEDI 175.** Design, synthesis, and SAR of inhibitors of lipid chaperones (FABPs) toward next-generation therapeutic agents for chronic pain and cancer. *M. Awwa, S. Yan, M. Elmes, J. Li, K. Ziadkhanpour, M. Kaczocha, R.C. Rizzo, D. Deusch, I. Ojima*
- MEDI 176.** Exploiting solvent effects in drug design and optimization. *A. Ajamian, C. Williams*
- MEDI 177.** Hepatitis C virus NS3/4A protease inhibitors incorporating flexible P2 quinoxalines target drug resistant viral variants. *J. Zephyr, A.N. Matthew, N. Kurt-Yilmaz, C.A. Schiffer, A. Ali*
- MEDI 178.** Investigating the efficacy of functionalized hybrid gold nanoparticles as theranostic platforms in dialysis related amyloidosis and Alzheimer's disease. *R. Burke, D.J. Swinton, M.P. Washington, H. Zhang, A. Boroujerdi*
- MEDI 179.** Discovery and optimization of macrocyclic peptide dimerization inhibitors of BRAFwt. *C. Beneker, M. Rovoli, M. Roring, G. Kontopidis, T. Brummer, C. McInnes*
- MEDI 180.** Anticancer properties of ruthenium(II) complexes and their application for photodynamic therapy and photoactivated chemotherapy. *R. Ryan, D.K. Heidary, K.C. Stevens, J.P. Selegue, E.C. Glazer*
- MEDI 181.** Alternative synthetic pathway for a cytotoxic compound for lymphocytic leukemia. *D. Belmona, L. Sanchez*
- MEDI 182.** Development of structure-activity relationships of cjc42 for targeting Gankyrin. *J. Almasri, P. Farrales, E. Abo-Ali, Y. Otmankhel, A. Shaik, V. Dukhande, V. Gupta, A. Muth*
- MEDI 183.** Development of small molecule- and peptide-based probes for targeting Gankyrin. *D. Kanabar, A. Muth*
- MEDI 184.** Lobaric acid and pseudodopsidones from the lichen *Stereocaulon paschale* inhibit NF- κ B signaling pathway. *C. Carpentier, X. Barbeau, D. Grenier, P. Lagüe, N. Voyer*
- MEDI 185.** Synthesis and biological evaluation of novel 6-substituted thieno[3,2-d]pyrimidines as targeted antifolates. *T.M. Quadery, F. Islam, L.H. Matherly, A. Gangjee*
- MEDI 186.** Regulation of AIMP2-DX2, oncogenic splicing variant using small molecule. *S. Huddar, S. Lee, C. Park*
- MEDI 187.** Re-defining the oxindole chemotype to identify narrow spectrum inhibitors of the dark kinases TLK2 and PKMYT1. *C.R. Asquith, M.P. East, T. Laitinen, G.J. Tizzard, D.H. Drewry, G.L. Johnson, T. Willson*
- MEDI 188.** Design, synthesis and biological evaluation of novel aromatic/heterocyclic sulfonamides as carbonic anhydrase inhibitors with selectivity for tumor-overexpressed isozyme IX. *U.K. Mondal, E. McDuffie, S. Zamanova, C.T. Supuran, M.A. Iliés*
- MEDI 189.** Design and synthesis of benzolytic, anticonvulsant and antiopticative benzodiazepine/GABA(A)ergic receptor subtype selective ligands as potential non-sedating treatment for anxiety disorders, epilepsy and pain disorders. *G. Li, J. Witkin, J. Schkeryantz, R. Cerne, J. Li, L. Lewter, K. Freeman, D. Stafford, L. Arnold, J.M. Cook*
- MEDI 190.** Cholesteryl ester vesicle mediated delivery of nucleic acids into neural cells *in vitro*. *S. Andres, M.Q. Irving, A. Kovacs, J. Fraser-McArthur, J. Hughes, J. Schentag, L. Mielnicki, M. McCourt*
- MEDI 191.** Isolation and synthesis of luffariellolide derivatives and evaluation of antibacterial activities against Gram-negative bacteria. *J. Lee, A. Shin, H. Lee*
- MEDI 192.** Electro-responsive ceria nanoparticle-embedded ferrocene-polyethyleneimine nanocarriers for the treatment of bacterial infections. *S. Zhao, N. Bassous*
- MEDI 193.** New insights into salvinorin A from an activated kappa opioid receptor structure. *P.D. Mosier, T. Che, B.L. Roth*
- MEDI 194.** Structure-activity relationship study of otilonium bromide as an antimicrobial agent. *J. Rhodes, H. Wang, A. Cunningham, B. Davies, S.F. McHardy*
- MEDI 195.** Interactions of pyridine based aromatic hydrazides and amides with model membrane interfaces. *B.J. Peters, C. an Cleave, G. Giffen-Kent, D. Crick, A. Sostarecz, D.C. Crans*
- MEDI 196.** Multi-target molecular profiling using MOE: A CYP450 isomorph selectivity case study. *M.R. Goldsmith, C. Williams*
- MEDI 197.** Computational approach for performing medicinal chemistry transformations within a 3D active site. *N. Thorsteinson, A. Deschenes*
- MEDI 198.** MOESa: Application of matched molecular pairs to interactive SAR exploration. *A. Ajamian*
- MEDI 199.** Organizing 3D project data for structure-based drug design. *A. Ajamian*
- MEDI 200.** Direct electrochemical differentiations of cancer and normal cells on the titanate. *H. Alismail, Y. Du, J. Zhou, Z. Tian*
- MEDI 201.** Application of extended Huckel theory to pharmacophore modeling. *A. Ajamian*
- MEDI 202.** Discovery of highly potent PI4KIII β inhibitors against rhinovirus replication. *P. Chakrasali, H. Soo Bong, Y. Jung*
- MEDI 203.** Amphipathic fatty acyl-cyclic [W_nR_k] peptides as antimicrobial agents against pathogenic bacteria. *A.D. Akinwale, J. Yamaki, K. Parang, R. Tiwari*
- MEDI 204.** Modular synthesis of peptide-based single and multimodal targeted molecular imaging agents. *H.F. Schmitthenner, T. Barrett, S. Beach, L. Heese, A. Sweeny-Jones, C. Weidman, K. Jones, d. Dobson, X. Xu, H. Ophardt, K. Embong, I. Evans*
- MEDI 205.** Vinblastine and effects of its metabolites on nausea associated receptors. *C.M. Chagas, L. Alisaraie*
- MEDI 206.** Pro-soft drug modulators of sphingosine-1-phosphate receptor 1 (S1PR1). *C. Robinson, M. Bell, D. Foley, C. Naylor, G. Wood, J. Riley, O. Epemolu, L. Ellis, P. Scullion, Y. Shishikuro, D. Flectcher, E. Katz, W. McLean, P. Wyatt, K. Read, A. Woodland*
- MEDI 207.** Synthesis of novel, potent phosphatidyl-choline specific phospholipase C inhibitors. *L.I. Pilkington, M. van Rensburg, J. Reynisson, E. Leung, W.A. Denny, D. Barker*
- MEDI 208.** Investigating the scope of 3-oxabicyclo[4.1.0]heptane as a bioisostere for morpholine in kinase hinge binding fragments. *D.M. Summers, S. Peace, C. Jamieson, H. Hobbs, S. Pal*
- MEDI 209.** Mechanism-based inhibitors of the human sirtuin 5 deacylase. *K. Troelsen, N. Rajabi, A.S. Madsen, C.A. Olsen*
- MEDI 210.** Generation of cell-permeable protein mimetics through structural stabilization of protein fragments by membrane anchoring. *N. Tarasova, K. Stefanisko, L. Khavrutskii, S. Tarasov*
- MEDI 211.** Synthesis and evaluation of hydrogen peroxide sensitive prodrugs of methotrexate and aminopterin for the treatment of rheumatoid arthritis. *V. Previtali, J.P. Cadahia, N. Andersen, M. Clausen*
- MEDI 212.** Development of a potent blood-brain barrier penetrating EGFR tyrosine kinase inhibitor against malignant brain tumors. *L.M. Urner, J. Tsang, G. Kim, P.M. Clark, T.F. Cloughesy, M.E. Jung, D.A. Nathanson*
- MEDI 213.** Fluorescence quenching studies of the human serum albumin (HSA) - quercetin complex by addition of divalent cations. *R.M. Savitzky, U. Okoroafor, C. Kim*
- MEDI 214.** Modular synthesis of allosteric inhibitors of p97 AAA ATPase. *E. Carder, D.M. Hury, P. Wipf*
- MEDI 215.** Discovery of a novel class of orally active CGRP receptor antagonists for the treatment of migraine. *I.M. Bell*
- MEDI 216.** Pharmacodynamics-driven skeleton synthesis with unravel of unique chemical reactivity feature: Exploring promising pharmaceutical agent. *M. Saini, D. Sumkaria, V. Chaudhary, S. Guchhait*
- MEDI 217.** Discovering drugs from plants or drugs in plants? *J. Nielsen*
- MEDI 218.** Synthesis and evaluation of functionalized benzoboroxoles as potential anti-cancer agents. *S.C. Jonnalagadda*
- MEDI 219.** Design of Baylis-Hillman template based betulinic acid derivatives as potential anti-cancer agents. *S.C. Jonnalagadda*
- MEDI 220.** Potent and selective inhibition of sirtuin 2 deacylation. *A. Nielsen, N. Rajabi, A.S. Madsen, C.A. Olsen*
- MEDI 221.** Novel nitroxide derivatives combined with low-level laser irradiation for the treatment of acute limb ischemia/reperfusion injury. *X. Yan, L. Bi*
- MEDI 222.** Generalization of a CNS-targeting prodrug strategy for nuclear receptor modulators. *S.J. Ferrara, T.S. Scanlan*
- MEDI 223.** Exploring conformational changes associated with antimicrobial agent, colicin E3 during receptor binding on targeted bacteria. *T.D. Nilaweera, D.S. Cafiso*
- MEDI 224.** Structure-activity relationship analysis of TNF receptor inhibitors for elucidation of inhibition mechanisms and therapeutic developments. *C. Lo, W. Fiers, D. Thomas, C.C. Aldrich, J. Sachs*
- MEDI 225.** Scavenging activity of flavonoids present in okra seed extracts against methylglyoxal, a neurotoxic and reactive dicarbonyl species derived from glucose linked to diabetes and neurodegenerative diseases. *B. Dayal, M.A. Lea*
- MEDI 226.** Semi-synthesis of albocycline analogs and biological evaluation for better mechanistic understanding. *S. Daher, K. Franklin, V. Chatare, R.B. Andrade*
- MEDI 227.** Design, synthesis, and molecular modeling of novel 6-substituted pyrido[2,3-d]pyrimidines as dihydrofolate reductase inhibitors and potential anti-opportunistic agents. *F. Islam, D.W. Seybert, A. Gangjee*
- MEDI 228.** Discovery of a 40-year-old sequence error unveils new understanding of allosteric ligand binding to glutamate dehydrogenase. *O. Nassar, B.M. Pettitt, T. Smith*
- MEDI 229.** Does β -lactamone isomerize in human body? *S. Cho, B. Kim, Y. Yoon*
- MEDI 230.** Chemical synthesis and applications of a novel fluorescent probe for human complement C3a receptor. *C. Wu, A.D. de Araujo, K. Wu, R.C. Reid, T. Durek, J. Lim, D.P. Fairlie*
- MEDI 231.** Drug repurposing for nontuberculous mycobacteria with assay central. *K.M. Zorn, S. Murcia, A. Clark, M. Braunstein, S. Ekins*
- MEDI 232.** Evaluation of butyrophilin (BTN3A1) ligands for gamma delta T cell stimulation. *M.M. Poe, C.C. Hsiao, A.J. Wiemer*

MEDI

MEDI 233. Structure-guided design and SAR studies of hepatitis C virus NS3/4A protease inhibitors incorporating flexible P2 quinoxalines. *A. Ali, A.N. Matthew, N. Desaboini, L. Ruser, A. Newton, C.J. Petropoulos, W. Huang, N. Kurt-Yilmaz, C.A. Schiffer*

MEDI 234. Monitoring macrolide-induced changes to membrane properties of living bacteria by using second-harmonic light scattering. *M. Sharifian Gh., M.J. Wilhelm, H. Dai*

MEDI 235. Synthesis and spectroscopic study of polymer-based nonsteroidal analgesic prodrugs. *H.D. Tabba*

MEDI 236. Potentially bioactive ferrocene-substituted nitro and amino complexes: Synthesis, structural interpretation, and DFT calculations. *F. Asghar, A. Badshah, I.S. Butler*

MEDI 237. Novel theranostic tools for Alzheimer's disease. *L. Sun, N. Bandara, Y. Huang, H. Cho, B.E. Rogers, L.M. Mirica*

MEDI 238. Design and antiviral activity evaluation of small molecule compounds against viruses from *Flavivirus* and *Enterovirus* genera. *A. Orlov, M. Drenichev, V. Oslovsky, K. Frolov, A. Nikitina, E. Khvatov, A. Eletskaia, A. Golinec, S.N. Mikhailov, V. Palyulin, G. Karganova, V. Dotsenko, L. Kozlovskaya, D.I. Osolodkin*

MEDI 239. Synthesis and base pairing studies of 5-cyanomethyluridine (cmⁿU) and 5-cyanouridine (cnⁿU) in RNA duplexes. *S. Mao, J. Sheng*

MEDI 240. Synthesis and crystal structure studies of 2'-5'-linked RNA duplexes. *F. Shen*

MEDI 241. Molecular dynamics simulations of the absorption of dodecaborate hydride clusters by Feraheme medicine. *P. Rehak*

MEDI 242. Understanding the effect of arsenic treatment on breast cancer cell lines using gene expression analysis. *L.L. Pruteanu, C. Braicu, D. Mădos, A. Jurj, L. Raduly, R. Cojocneanu-Petric, A. Moldovan, A. Bender, I. Berindan-Neagoe*

MEDI 243. 2,3-Difluoro sialic acid analogs as potential bacterial sialidase inhibitors. *W. Li, A. Santra, H. Yu, Y. Li, T. Slack*

MEDI 244. Potent zwitterionic anticancer agent: Selective killing of cancer by targeting cancer redox metabolism. *J. Song, J. Mi, L. Jin, B. Liang, D.P. Jones, H. Fu, C.L. Hill, S. Nie*

MEDI 245. Prodrug of doxorubicin and biomaterial allow for targeted treatment of soft tissue sarcoma. *K. Wu, M. Royzen, J. Mejia Oneto, N. Yee*

MEDI 246. Polyelectrolytes, potent excipients for protein drugs. *A. Mancuso, N. Pillarella, A. Sadek, M. Bazrouk, K.S. Raja*

MEDI 247. Vitamin B12 derivatives for photopharmaceutical therapy. *J.R. Shell, D.C. Zites, T.A. Shell, J. Gunn, B. Pogue*

MEDI 248. Membrane association controls substrate specificity of lipolytic enzymes. *V. Mouchlis, J. McCammon, E.A. Dennis*

MEDI 249. Amphiphilic cell-penetrating hybrid cyclic-linear peptides as a drug delivery system. *S. Mozaffari, K. Tavakoli, B. Khungar, R. Tiwari, K. Parang*

MEDI 250. Selective metabolic blackout in hepatocellular carcinoma cells by submicromolar iodoacetate-loaded galactosylated nanoparticles. *A.M. Reda*

MEDI 251. Rapid estimation of relative binding affinities of G-protein coupled receptor (GPCR) ligands using precomputed ensembles based free energy approaches. *S.K. Lakkaraju, S. Jo, A.D. Mackerell*

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 210B

Best Practices in Fragment-Based Drug Design

A. C. Hart, D. Marcoux, H. Perez, *Organizers, Presiding*
9:00 MEDI 252. Progress, pitfalls, and best practices for fragment-based drug discovery. *D.A. Erlanson*

9:35 MEDI 253. Strategizing fragment libraries and screening methods for hit identification against metabolic enzyme targets. *A. Padyana*

10:10 MEDI 254. Fragment-based discovery of KAT II inhibitors via high-throughput chemistry. *M. Harner, C.L. Cavallaro*

10:45 MEDI 255. Discovery of potent orally bioavailable Factor D inhibitors by exploiting non-validated very weak binding affinity fragments. *A. Vulpetti*

11:20 MEDI 256. Fragment-based discovery of an orally bioavailable ERK1/2 inhibitor which reduces the level of phosphorylated ERK. *D. Norton*

SECTION B

Boston Convention & Exhibition Center
Room 210A

New Advances in Treating Rare Diseases

A. A. Scholte, K. Yeung, *Organizers, Presiding*
8:30 Introductory Remarks.

8:35 MEDI 257. Identification of novel CNS active glucosylceramide synthase (GCS) inhibitors for the treatment of neuropathic lysosomal storage diseases. *J.P. Leonard*

9:10 MEDI 258. Discovery of sarcomere modulator mavacamten. *J. Oslob*

9:45 MEDI 259. Discovery and development of avapritinib: A highly targeted therapy for systemic mastocytosis. *K.J. Wilson*

10:20 MEDI 260. Discovery of CFTR correctors for the treatment of cystic fibrosis. *X. Wang*

10:55 MEDI 261. ACH-4471, the first clinically investigated orally administered small-molecule inhibitor of complement factor D for the treatment of rare chronic diseases including C3 glomerulopathy. *J.A. Wiles, V.R. Gadachanda, A.S. Phadke, S.D. Podos, Y. Huang, W. Yang, H. Kocinsky, M. Deshpande, M. Huang*

11:30 MEDI 262. Sulfur-halogen intramolecular conformational constraints: Identification of 1,3,4-thiadiazole analogs of LM1070 as SMN2 splicing modulators. *M. Sung*

SECTION C

Boston Convention & Exhibition Center
Room 210C

General Oral Session

A. W. Stamford, *Organizer*
A. J. Roecker, *Presiding*

8:30 MEDI 263. Chemical insights into human aldehyde oxidase-mediated metabolism. *S. Lepri, N. Milani, S. Tortorella, G. Cruciani*

8:50 MEDI 264. Discovery of potent and selective BRD4 inhibitors capable of blocking TLR3-induced acute airway inflammation. *Z. Liu, B. Tian, H. Chen, P. Wang, A.R. Brasier, J. Zhou*

9:10 MEDI 265. Discovery of potent BET inhibitors as potential treatments for cancer. *M.D. Hill, H. Fang, D. Norris, W.D. Schmitz, C. Huang, R. Westhouse, M. Kramer, J. Morrison, C. Tye, E. Shields, H. Zhang, M. Sinz, J. Simmermacher-Mayer, F. Lee, A.V. Gavai, A.P. Degnan*

9:30 MEDI 266. Development of a YEATS-domain chemical probe. *M. Moustakim, O. Monteiro, J. Bennett, C. Giroud, T. Christott, L.D. Saez, I. Panagakou, L. Felce, V. Gamble, K. Huber, G. Farnie, J. Heer, D. Dixon, P. Brennan, O. Federov*

9:50 MEDI 267. Development of KDM5 covalent inhibitors as chemical probes. *S. Vazquez-Rodriguez, M. Wright, P. Brennan*

10:10 MEDI 268. Antitubercular drug discovery enabled by Bayesian modeling. *A.L. Perryman, T.P. Stratton, J.S. Patel, X. Wang, S. Ekins, J.S. Freundlich*

10:30 MEDI 269. Discovery of a highly potent and orally bioavailable selective estrogen receptor degrader (SERD) GNE-149 for ER-positive breast cancer. *J. Liang*

10:50 MEDI 270. Discovery of a series of selective inhibitors of the sodium-phosphate co-transporter NaPi2a (SLC34A1). *K.J. Filipiski*

11:10 MEDI 271. Discovery and application of 3-oxabicyclo[4.1.0]heptane, a non-nitrogen containing morpholine isostere, through predictive quantum mechanical modelling. *H. Hobbs, G. Bravi, I. Campbell, M. Convery, H. Davies, G. Inglis, S. Pal, S. Peace, J. Redmond, D.M. Summers*

11:30 MEDI 272. Exploration of novel chemical space by the interplay of drug design and method development: Neglected sulfur (VI) pharmacophores in drug discovery. *U.T. Luecking, F. Izzo, J. Sirvent, R.A. Stockman, F. von Nussbaum, M. Bauser, M. Brands*

11:50 MEDI 273. Assessment of AstraZeneca secondary pharmacology profiling assays and applications to lead optimization efforts. *D.G. Brown*

Structures & Functions of Glycans

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MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 210B

Confronting the Opioid Epidemic: Novel Treatments for Chronic Pain

S. McKerrall, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 MEDI 274. NKTR-181: Separating euphoria from analgesia in a full MOR agonist. *S.K. Doberstein, N.K. Anand*

2:05 MEDI 275. Evaluation of opioid antinoceptive tolerance with G-protein signaling biased opioid agonists. *L.M. Bohn, T.D. Bannister*

2:35 MEDI 276. NYX-2925 is a novel NMDA receptor-specific spirocyclic- β -lactam that induces rapid and long-lasting analgesia in multiple rat models of neuropathic pain. *R.A. Kroes, M. Khan, N. Ghoreishi-Haack, C. Cearley, J.R. Moskal*

3:05 MEDI 277. Strategic advances in the identification of small molecule inhibitors of Na_v1.7 for the treatment of chronic pain. *B. Milgram*

3:35 MEDI 278. Structure-based drug discovery in a sodium channel: Discovery of chromane arylsulfonamide Nav1.7 inhibitors for the treatment of chronic pain. *S. McKerrall, P. Bergeron, B. Safina, D.F. Ortwine, S. Shields, L. Deng, D. Hackos, J. Chen, J. Pang, J. Chang, K.W. Lai, W. Liu, Z. Liu, C.M. Dehnhardt, J. Johnson, G. Bankar, C. Cohen, D.P. Sutherland*

4:05 MEDI 279. Discovery of novel arylsulfonamide Na_v1.7 inhibitors: *In vitro-in vivo* correlations, development of multiparameter optimization (MPO) methods, and optimization of selectivity profiles. *A.J. Roecker, M.E. Layton, M.J. Kelly, J.E. Pero, T.J. Greshock, T. Zhang, R.L. Kraus, Y. Li, C. Daley, A. Jovanovska, B. Klein, M. Clements, J. Wang, D. Henze, G. Varty, J. Ballard, D. Wang, F. Zhao, C.P. Regan, H. Regan, L.A. Joyce, E.C. Sherer, C.T. John, X. Peng, X. Wang, H. Sun, A.K. Houghton, C.S. Burgey*

SECTION B

Boston Convention & Exhibition Center
Room 210A

Biology's Magic Methyl: Methyltransferases & Demethylases as Epigenetic & Neurotransmitter Regulators

J. Barrow, J. Panarese, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 MEDI 280. Discovery of selective inhibitors for histone methyltransferases. *J. Jin*

2:15 MEDI 281. Discovery, optimization and biological activity of EED binders allosterically inhibiting the methyltransferase PRC2. *A. Lingel, Y. Huang, D. Bussiere, J. Gu, L. Li, W. Qi, M. Sendzik, Y. Wang, Z. Yu, H. Zhang, J. Zhang, M. Zhang, K. Zhao, C. Oyang, E. Li*

2:55 MEDI 282. Structural rationalization of bioactivity trends that led to identification of the EZH2 development candidate (PF-06821497). *P. Kung, S. Bergqvist, P. Bingham, J.F. Braganza, A. Brooun, M.R. Collins, W. Diehl, Y. Deng, D. Dac, C. Fan, V. Fantin, K. Gajiwala, H. Gukasyan, W. Hu, B. Huang, R. Kania, W. Liu, S. Kephart, M. Kraus, C. Krivacic, R. Kumpf, G. Li, K. Moegley, J.J. McAlpine, L. Nguyen, S. Ninkovic, M.A. Ornelas, D. Richter, E. Rui, M. Ryskin, S.A. Scales, J. Spangler, A. Stewart, S.C. Sutton, J. Tatlock, C. Tsao, D. Verhelle, F. Wang, H. Wang, M. Wythes, S. Yamazaki, B. Yip, X. Yu, L. Zehnder, W. Zhang, P. Zhu, J. Zhu, R. Rollins, S. Sharma, M.P. Edwards*

3:35 MEDI 283. Targeting histone methyltransferases and demethylases. *V. Gehling*

4:15 MEDI 284. Discovery and development of picapone, a third generation catechol-O-methyltransferase inhibitor. *P. Soares-da-Silva, L. Kiss*

4:55 Concluding Remarks.

SECTION C

Boston Convention & Exhibition Center
Room 210C

Drug Discovery for the Treatment of Childhood Neuromuscular Diseases

A. S. Kamlet, *Organizer, Presiding*

1:30 MEDI 285. Spinal muscular atrophy from gene to treatment. *A. Burghes*

2:10 MEDI 286. Small molecule SMN splicing modifiers to treat SMA. *M.G. Woll, G.M. Karp, A. Turpoff, N.A. Naryshkin, A. Dakka, J. Narasimhan, V. Gabbeta, M. Weetall, X. Zhao, N. Risher, J. Sheedy, J. Baird, H. Ratni, F. Metzger, S. Pauskin, K.S. Chen*

2:50 MEDI 287. Spinal muscular atrophy: Advancing small molecule splicing modulators from phenotypic screen to the clinic. *B. Hurley*

3:30 Intermission.

3:40 MEDI 288. Exon skipping therapy for Duchenne muscular dystrophy – it takes more than an antisense oligonucleotide. **A. Aartsma-Rus**

4:20 MEDI 289. Small molecule utrophin modulators for the therapy of Duchenne muscular dystrophy (DMD). **A.J. Russell, A. Vuorinen, N.J. Willis, D. Canole, M. Chatzopoulou, E. Emer, I. Wilkinson, S.G. Davies, S. Guiraud, S.E. Squire, A. Babbs, H. Dugdale, B. Edwards, S. Hemming, L. Moir, K. Perkins, S. Harriman, F. Wilson, G.M. Wynne, J.M. Tinsley, K.E. Davies**

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Bioactives & Skin Health

Sponsored by AGFD, Cosponsored by MEDI

Undergraduate Research Posters

Medicinal Chemistry

Sponsored by CHED, Cosponsored by MEDI and SOCED

Tetrahedron Prize

Sponsored by ORGN, Cosponsored by BIOL, CARB and MEDI

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

A. W. Stamford, *Organizer*

8:00 – 10:00

39, 50, 54, 60, 73-74, 80, 86, 95, 98, 100-101, 104, 111, 113, 118, 123, 128, 135, 138-139, 143, 145-146, 149, 163, 165, 167-170, 173, 179, 184, 186-187, 189, 192. See previous listings.

357, 371-372, 378, 385, 431, 436, 440-441. See subsequent listings.

TUESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Ballroom West

Awards Session

Cosponsored by PROF

A. W. Stamford, *Organizer*
P. L. Ornstein, *Presiding*

8:30 MEDI 290. Design and synthesis of novel opioid peptidomimetics for potential treatment of cocaine addiction. **D. Montgomery, J.P. Anand, N.W. Griggs, J.R. Traynor, H.I. Mosberg**

8:55 MEDI 291. Total syntheses of highly oxidized bioactive natural products. **H. Chu**

9:20 MEDI 292. Towards the development of an *in vivo* chemical probe for Polycomb chromodomains. **K.N. Lamb, J.I. Stuckey, S.N. Dishman, J.L. Norris-Drouin, S.H. Cholensky, O. Bell, S. Musetti, L. Huang, C.A. Sagum, M.T. Bedford, L.I. James, S.V. Frye**

9:45 MEDI 293. Development of predictive guidelines for small-molecule accumulation in Gram-negative bacteria. **M. Richter**

10:10 MEDI 294. Novel strategies for treating estrogen receptor positive metastatic breast cancer. **R. Xiong, J. Zhao, L. Gutgesell, Y. Li, Y. Lu, C. Rosales, H. Zhao, D. Tonetti, G.R. Thatcher**

10:35 MEDI 295. Structure and physicochemical property guided design of small molecule kinase inhibitors and further opportunities. **T.P. Heffron**

11:20 MEDI 296. In recognition of those who deserve the Philip S. Portoghese lectureship award but did not receive it. **M. Cushman**

SECTION B

Boston Convention & Exhibition Center
Room 210B

Projects of NCI Chemical Biology Consortium: A Unique, Collaborative Approach to Cancer Drug Discovery

Cosponsored by BIOL[†]

M. Arkin, D. M. Huryn, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 MEDI 297. NCI Chemical Biology Consortium.

B. Mroczkowski

8:55 MEDI 298. Design and characterization of a chemical fragment library of mercaptophiles. **P. Wipf, T. Maskrey, M. Arkin, D.M. Huryn**

9:20 MEDI 299. Discovery and structure-based optimization of potent, covalent inhibitors of Taspase1. **J. Neitz, M. Arkin, A.G. Waterson, L. Sambucetti**

9:45 MEDI 300. Discovery, optimization and characterization of allosteric inhibitors of the AAA ATPase p97, an emerging cancer target. **D.M. Huryn, M. Arkin**

10:30 MEDI 301. Discovery of novel tricyclic Mcl-1 inhibitors that exhibit selective anti-proliferative activity and *in vivo* efficacy. **T. Lee, J.C. Tarr, B. Zhao, Z. Bian, S. Shaw, J. Belmar, A. Arnold, J.L. Sensintaffar, W.J. Moore, G.M. Stott, M. Hollingshead, A. Srivastava, C.J. Thomas, M.M. Davis, O.W. Rossanese, E.T. Olejniczak, S.W. Fesik**

11:05 MEDI 302. Discovery and characterization of cell active inhibitors of lactate dehydrogenase (LDH) using structure-based design. **A.G. Waterson, M.D. Hall, G. Rai, K. Brimacombe, B. Mott, D.J. Urban, K. Kim, P.P. Christov, A.P. Lamers, I.M. Romaine, S. Jana, X. Hu, S. Yang, T.D. Lee, D. Cheff, J. Kouznetsova, G.A. Benavides, K. Pohida, E.J. Kuentner, D.K. Luci, C.M. Lucaks, D.R. Davies, D. Dranow, H. Zhu, G.A. Sulikowski, W.J. Moore, G.M. Stott, A.J. Flint, V.M. Darley-Usmar, J.P. Norenberg, L.A. Sklar, L.M. Neckers, C.V. Dang, A. Simeonov, A. Jadhav, D.J. Laloney**

11:50 MEDI 303. MRX-2843, a dual MERTK/FLT3 inhibitor enabled by the NCI Chemical Biology Consortium (CBC) entering Phase 1 clinical trials. **X. Wang, D. DeRyckere, D. Kireev, D. Graham, H. Earp, S.V. Frye**

12:25 Concluding Remarks.

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis

Flow Synthesis

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

TUESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Ballroom West

Structure-Based Drug Design for GPCRs & Other Difficult Targets

T. D. Bannister, C. de Graaf, *Organizers, Presiding*

1:30 MEDI 304. Structure-based drug discovery of G protein-coupled purine receptor ligands. **K.A. Jacobson**

2:10 MEDI 305. Application of MD-simulations in GPCR drug design – exemplified by case studies. **C. Tautermann**

2:50 MEDI 306. Navigating structural GPCR-ligand interaction space for crafted computer-aided drug design. **C. de Graaf, B.G. Tehan, F. DeFlorian, J. Mobarec, C.C. Scully, R.T. Smith, G. Bottegani, J.S. Mason, M. Congreve**

3:30 MEDI 307. Orthosteric and allosteric antagonism of chemokine receptors: Structural insights into compound affinity and selectivity. **K.K. Cahala, G.E. Baker, Y. Zheng, A. Tebben, T.M. Handel, I. Kufareva**

4:10 MEDI 308. Opportunities for advanced computational modeling in GPCR drug discovery. **A. Bortolato, K. Zhu, K.W. Borrelli, T. Beuming, I. Aloni, R. Abel**

4:50 MEDI 309. Identifying inter-helical interactions involved in GPCR structure-function and the forces that determine ligand residence time. **A. Heifetz, A. Potterton, I. Morao, T. James, M. Southey, D.G. Fedorov, M. Bodkin, A. Townsend-Nicholson**

SECTION B

Boston Convention & Exhibition Center
Room 210B

General Oral Session

A. W. Stamford, *Organizer*

M. Visser, *Presiding*

1:30 MEDI 310. Lead repurposing for neglected tropical diseases: Strategies for optimization of ADME properties of kinase inhibitor chemotypes. **L. Ferrins, A. Sharma, K.A. Bachovchin, S. Bag, L. Silva, D. Klug, N. Mehta, J. Woodring, W.G. Devine, J. Wiedman, K. Mensa-Wilmut, M.P. Pollastri**

1:55 MEDI 311. Design of a potent and selective GPR40 agoPAM with low projected human dose. **D. DeMong, Z. Hu, M.W. Miller, R. Orr, A. Weinglass, G. Eiermann, K. Mitra, J. Ehrhart, C. Plummer, H. Chen, H.R. Chobanian, A.R. Angeles, M. Maddess, E. Ashley, J. DiSalvo, B. Thomas-Fowlkes, S. Souza, B. Cheewatrakoolpong, M. Trujillo, J. Gorski, M. Pachanski, D. Kosinski, M. Kirkland, J. Mane, J. Baldassari, D. Szeto, J. Xue, G. Forrest, K. Samuel, R. Tschirret-Guth, D. Tatosian, Q. Chen, M. Hafez, R. Houle, A. Thomas, J. Shang, T. Pereira, A. Howard, S.L. Colletti**

2:20 MEDI 312. Harnessing intramolecular hydrogen bonds in the design of potent and selective CREBBP bromodomain ligands. **S.J. Conway**

2:45 MEDI 313. Identification and *in vivo* evaluation of novel IRAK4 inhibitors in murine models of lupus. **J. Hynes**

3:10 MEDI 314. Discovery of TAK-137 and TAK-653, clinical candidates of α -amino-3-hydroxy-5-methylisoxazole-4-propionic acid receptor potentiators with reduced agonistic activities. **S. Nakamura, M. Toyofuku, E. Honda, T. Imaeda, A. Yokota, S. Sogabe, A. Kunugi, H. Kuno, Y. Kasugi, M. Kari, T. Miki, H. Kimura, T. Kuroita, T. Kaku**

3:35 MEDI 315. First class of orally available monosaccharide galectin-3 inhibitors for treatment of fibrosis (NASH) and cancer. **F. Zetterberg**

4:00 MEDI 316. Discovery of orally bioavailable non-catechol atropinomer dopamine D₁ agonists with reduced desensitization. **J.E. Davoren, D.L. Gray, D. Nason, A. Harris, W. Xu, S. Mente, J.W. Coe, R. Kozak**

4:25 MEDI 317. DRX-065, the deuterated (*R*)-enantiomer of pioglitazone, as a nonalcoholic steatohepatitis (NASH) drug candidate: Preclinical and phase 1 results. **V. Jacques, L. Van der Ploeg, S.H. Dewitt**

4:50 MEDI 318. Discovery of novel potent and selective first in class calpain inhibitors for the potential treatment of neurodegenerative disorders. **H. Mack, K. Jantos, A. Kling, C.W. Hutchins, W. Hornberger, G. Backfisch, M. Nijssen**

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis

Reaction Planning & Screening

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

WEDNESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Ballroom West

First Time Disclosure of Clinical Candidates

E. F. DiMauro, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 MEDI 319. Discovery of the TYK2 selective inhibitor PF-6826647 for the treatment of Crohn's disease, and other autoimmune conditions. **B.S. Gerstenberger, E.P. Arnold, M. Banker, M.F. Brown, J.D. Clark, A. Dermenci, M. Dowty, A. Fensome, M.M. Hayward, M. Hegen, B.D. Hollingshead, J.D. Knafels, D.W. Lin, T. Lin, D. Owen, E. Saiah, R. Sharma, F.F. Vajdas, F. Vincent, S.W. Wright, L. Xing, X. Yang, X. Yang, L. Zhang**

9:45 MEDI 320. Discovery of AZD5718, a novel 5-lipoxygenase activating protein (FLAP) inhibitor. **M. Lemurell, D. Pettersen, J. Ulander, M. Hayes, C. Whatling, M. Swanson, J. Brodderfalk, H. Emtenas, E. Lindstedt**

10:25 MEDI 321. Discovery of LY1354207, a potent and selective dopamine receptor D1 positive allosteric modulator for the treatment of Parkinson's disease dementia. **J. Hao, J.P. Beck, J.H. Krushinski, J.M. Schaus, X. Wang, B. Heinz, R.F. Bruns, D.M. Bender, J.W. Cramer, K.A. Svensson**

11:05 MEDI 322. Discovery of AMG986, a potent, selective and orally bioavailable APJ agonist for the treatment of heart disease. **P.J. Dransfield, Z. Ma, J. Ma, V. Pattaropong, S. Lai, M.R. Kaller, N. Nishimura, N. Chen, D. Kopecky, D. Horne, K. Hoagland, S. Hedley, J.B. Houze, J. Mihalic, J. Heath, Y. Chen, Q. Guo, X. Chen, J.C. Medina, Z. Fu, J. Deignan, S. Wang, T. Judd, R. Connors, S. Olson, G. Swaminath, W. Sutherland, M. Fielden, B. Farrell, J. Harvey**

11:45 Concluding Remarks.

SECTION B

Boston Convention & Exhibition Center
Room 210B

Antibiotic Resistance: Recent Advances in Drug Discovery & Development

S. Dong, C. Gonzalez-Bello, J. Su, *Organizers, Presiding*

8:30 MEDI 323. Obstacles to the discovery of novel antibacterials & approaches towards a new strategy. **R.A. Tommasi**

9:00 MEDI 324. Disabling unexplored key enzymes in bacteria to unlock resistance to antibiotics.

C. Gonzalez-Bello

9:30 MEDI 325. Resetting the antibacterial arms race by enabling a novel Gram negative target. **M. Koehler, H.S. Girgis, C.E. Heise, R.I. Higuchi, J. Murray, T.C. Roberts, P. Paraselli, L. Rougé, P.A. Smith**

10:00 MEDI 326. Systematic conversion of Gram-positive-only compounds into broad-spectrum antibiotics.

P.J. Hergenrother

MEDI/NUCL

10:30 MEDI 327. Can sideromycins (siderophore-antibiotic conjugates) be effective antibiotics? Challenges and opportunities. *M.J. Miller*

11:00 MEDI 328. Microbiome: A key player in modulating infectious diseases and antibiotic resistance. *O. Danilchanka*

Nanomaterials in Drug Delivery: Efficacy & Toxicity Considerations

Sponsored by TOXI, Cosponsored by MEDI

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Ballroom West*

First Time Disclosure of Clinical Candidates

E. F. DiMauro, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 MEDI 329. Discovery of a once-weekly NNRTI clinical candidate: A new paradigm for treating HIV-1 infection. *Y. Han, C.S. Burgey, K. Menzel, M. Lai*

2:15 MEDI 330. Discovery, structure disclosure, and early clinical development of LY3202626, a low-dose, CNS-penetrant BACE inhibitor. *D.J. Mergott, J.E. Audia, M. Barberis, J.P. Beck, L.N. Boggs, R.D. Boyer, R.A. Brier, A.N. Borders, L.L. Daugherty, R.A. Dean, L. Ereshefsky, J.A. Erickson, P. Garcia-Losada, H. Gevorikyan, S.J. Green, E.J. Hembre, M.C. Irizarry, D.E. James, S. Jhee, Q. Lin, J.E. Lopez, A. Lo, S.L. Lowe, B.M. Mathes, P.C. May, D.L. McKinzie, S.A. Monk, M. Nakano, W.J. Porter, Y. Shi, S.L. Stout, D.E. Timm, B. Watson, B.A. Willis, L.L. Winneroski, Z. Yang, J.A. Zimmer*

2:55 MEDI 331. Discovery of PF-05251749 a selective casein kinase 1 (CK1 δ / ϵ) inhibitor for the treatment of circadian rhythm disorders. *T.T. Wager*

3:35 MEDI 332. Discovery of pyrrolidinamides, a novel chemical class for malaria treatment: First time disclosure of the orally bioavailable clinical candidate GSK701. *H. Rami, I. Castellote, F. Gamo, J. Haselden, F. Calderon Romo*

4:15 Concluding Remarks.

SECTION B

*Boston Convention & Exhibition Center
Room 210B*

General Oral Session

A. W. Stamford, *Organizer*

S. K. Cyr, *Presiding*

1:30 MEDI 333. Discovery of highly isoform-selective Nav1.6 inhibitors that show potent anticonvulsant activity in mouse models for focal seizures and severe childhood epilepsy. *T. Focken, M.E. Grimwood, V. Lofstrand, K. Burford, W. Gong, Q. Jia, A. Hasan, M. Taron, W. Zhang, M. Wilson, P. Tari, K. Nelkenbrecher, K. Khakh, S.J. Goodchild, N. Shuart, S. Lin, R. Kwan, L. Sojo, R.J. Devita, S. Wesolowski, C. Cohen, J. Johnson, C.M. Dehnhardt, J.R. Empfield*

1:50 MEDI 334. Synthesis, biological activity and druglikeness profile of new leishmanicidal candidates. *L.M. Lima, M.A. Alves, A.C. Queiroz, M. Alexandre Moreira, S.E. Haas, E.J. Barreiro*

2:10 MEDI 335. Discovery of 2,4-substituted azaindoles as multi-parasite inhibitors: Utilizing a parasite-hopping approach to drug-discovery. *K.A. Bachovchin, R. Diaz, G. Ceballos, M. Martinez-Martinez, P. Manzano-Chinchon, R.J. Sciotti, M. Navarro, M.P. Pollastra*

2:30 MEDI 336. Click chemistry *In Cellulo*: Bacterial cell as reaction vessel selectively synthesize macrolide antibiotics. *X. Jin, S. Daher, M. Lee, B. Buttar, R.B. Andrade*

2:50 MEDI 337. Structural requirements for the effective myostatin inhibition of myostatin prodomain-derived peptide derivatives. *K. Takayama, T. Asari, M. Saitoh, Y. Roppongi, A. Nakamura, A. Taguchi, A. Taniguchi, Y. Hayashi*

3:10 MEDI 338. Design, synthesis and biological evaluation of a series of novel 2-benzamide-4-(6-oxo-N-methyl-1-naphthamide)-pyridine derivatives as potent fibroblast growth factor receptor (FGFR) inhibitors. *A. Zhang*

3:30 MEDI 339. Design and synthesis of vesicular monoamine transporter 2 (VMAT2) inhibitors. *J.P. Williams, N.D. Harriott, S.R. Hoare, N.J. Ashweek, J. Pires, J. Fan*

3:50 MEDI 340. Design and evaluation of immunoproteasome-selective inhibitors for the treatment of autoimmune diseases. *C.E. Stivala*

4:10 MEDI 341. Peptidomimetics that interact with Rpn-6 as new anti-cancer molecules. *W. Tian, D.J. Trader*

4:30 MEDI 342. Evolution of efficient purine PI3Kdelta inhibitors with excellent selectivity and physicochemical properties. *J.L. Method, H. Zhou, M. McGowan, N.J. Anthony, S. Kattar, M. Christopher, Y. Garcia, A. Achab, K. Lipford, Y. Deng, M. Altman, X. Fradera, C. Lesburg, T. Fischmann, C. Li, S. Alves, C. Chappell, R. Jain, P. Goldenblatt, A. Hill, L. Shaffer, D. Chen, V. Tong, R. McLeod, H. Lee, H. Yu, A. Bass, R.A. Kemper, T. Guzi, Y. Ducharme, B. Trotter, S. Shah, J. Katz*

4:50 MEDI 343. Discovery of tarantula venom-derived Nav1.7-inhibitory peptide with systemic block of histamine-induced pruritis. *B. Wu*

WEDNESDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B1*

General Poster Session

A. W. Stamford, *Organizer*

7:00 – 9:00

MEDI 344. Catalytic difluoroalkylations through controllable difluorocarbene and radical cross-couplings and their applications in medicinal chemistry. *X. Zhang*

MEDI 345. Developing selective SETD8 inhibitors for treating high-risk neuroblastoma. *A. Ma, V. Veschi, W. Yu, N. Babault, F. Li, K. Butler, J. Wang, M. Luo, M. Vedadi, P. Brown, C. Arrowsmith, C. Thiele, J. Jin*

MEDI 346. Development of chemical probes for the TRIM33 bromodomain. *L. See, A.R. Scarah, J.P. Bluck, J.K. Reynolds, A.R. Sekirnik, S.J. Conway*

MEDI 347. Synthesis and anti-bacterial activities of derivatives of 2-aminoimidazoles. *R. Alshehry, S. Rasapalli*

MEDI 348. Hypoxia-activated prodrugs of the KDAC inhibitor panobinostat. *E.D. Calder, I.N. Mistry, E.M. Hammond, S.J. Conway*

MEDI 349. Development of a covalent proteasome inhibitor and kinetic analysis of its inhibitory mechanism. *S. Kitahata, F. Yakushiji, S. Ichikawa*

MEDI 350. Synthesis and evaluation for antibacterial and antibiofilm activities of 2-aminoimidazole Derivatives. *S. Rasapalli, V. Sammeta, Z. Murphy, S. Parker*

MEDI 351. Development of BCL6 protein-protein interaction inhibitors using a fragment-based approach. *B. Linhares, H. Cheng, W. Yu, M.G. Cardenas, Y. Ai, W. Jiang, A. Melnick, A.D. MacKerell, F. Xue, T. Cierpicki*

MEDI 352. Synthesis and ¹⁹F NMR-based screening of a library of diverse and three-dimensional fluorinated fragments. *N. Andersen, M. Clausen*

MEDI 353. Development of 8-pyridopyrimidinone-based covalent inhibitors of KDM5B. *M. Wright, S. Vazquez-Rodriguez, P. Brennan, A. Kawamura*

MEDI 354. Structure-based design of extracellular FLT3 inhibitors: First-in-class preclinical candidates for the treatment of neuropathic pain. *C. RIVAT, C. Sar, J. Leyris, C. Sonrier, Y. Philipson, M. Schmitt, P. Sokoloff, J. Valmier, D. Rognan*

MEDI 355. Wnt signaling pathway inhibitors for non-alcoholic fatty liver diseases (NAFLD). *F. Xue, Y. Ai, Y. Li, Y. Shu, W. Yang*

MEDI 356. Study of L-nepanocin analogues: Synthesis and antiviral property. *Q. Chen, N. Miller, A. Smith, G. Imhoff*

MEDI 357. Design, synthesis and biological evaluation of D3 antagonists with an aryl linker motif. *P. Cordone, B. Muniz, E. Gallicchio, R. Pal, T.P. Kurtzman, W. Harding*

MEDI 358. 4-Fluoropiperidine amides as fatty acid synthase inhibitors. *C.A. Zificsak, N.C. Becknell, A.K. Ghose, T.S. Angeles, M.A. Ator, L.D. Aimone, S.J. Miknyoczki, P. Dobrzanski, B.A. Ruggeri, R.L. Hudkins*

MEDI 359. Optimization of aryl sulfonamides as CNS penetrant, isoform-selective Nav1.6 inhibitors with efficacy in mouse models of epilepsy. *K. Burford, T. Focken, J. Andrez, M.E. Grimwood, A. Zenova, M. Taron, W. Gong, S. Decker, S. Chowdhury, N. Shuart, P. Tari, R. Kwan, L. Sojo, R.J. Devita, C. Cohen, J. Johnson, S.S. Wesolowski, J.R. Empfield, C.M. Dehnhardt*

MEDI 360. Carbon dot@NaTf₄ for imaging and *in vivo* drug delivery. *R. Li*

MEDI 361. Synthesis and evaluation of ¹⁸F-radiolabeled anticancer agents as tracers of nucleic acid metabolism. *A.K. King, A. Doepner, D. Turton, D.M. Ciobota, G. Kramer-Marek, G. Smith*

MEDI 362. First asymmetric synthesis of dihydro-thienopyridol scaffold, the alkylation subunit of NMS-P528, a new highly promising agent for ADC generation. *P. Orsini, M. Caruso, I. Candiani, N. Colombo, M. D'Anello, R. Frigerio, F. Gasparri, D. Ramella, B. Valsasina, D. Donati*

MEDI 363. Design and synthesis of potent DNA alkylating indolino-benzodiazepine compounds (BIAs) linked with a DNA binding moiety for use in antibody-drug conjugates (ADCs). *E.E. Reid, K.E. Archer, M. Shizuka, M.A. McShea, E.K. Maloney, O. Ab, L. Lanieri, A. Wilhelm, J.F. Ponte, N.C. Yoder, R.V. Chari, M.L. Miller*

MEDI 364. Imidazo[1,2-b]pyridazines as potent glycogen synthase kinase-3 β inhibitors for the potential treatment of Alzheimer's disease. *R.A. Hartz, V. Ahuja, P. Sivaprakasam, C. Burton, H. Xiao, C. Krause, W. Clarke, K. Kish, H. Lewis, J.E. Macor, G.M. Dubowchik*

MEDI 365. Embrace the sulfonamide! The unusual pathway from the identification to the optimization of PERK inhibitors. *D. Carenzi, E. Casale, M. Fasolini, I. Motto, I. Beria, M. Silvagni, C. Perra, B. Valsasina, D. Donati, E.R. Felder, A. Galvani, A. Isacchi, M. Pulici*

MEDI 366. N-(2,4-difluoro-3-((6-(2-fluoropyridin-3-yl)quinazolin-4-yl)amino)phenyl)propane-1-sulfonamide (DRF-0529) as a novel RAF kinase inhibitor. *S. Peng, C. Liao, M. Kuo, S. Yen, H. Huang, J. Yang, Y. Liu, S. Ciou*

MEDI 367. Improving peptide pharmacokinetics through tryptophan late-stage lipidation. *C. Huang, H. He, V. Reddy, R.P. Nargund, S. Lin, A. Palani*

MEDI 368. Discovery of new oxindoles derivative as potent and selective AMPK activators. *O. Venier, C. Namane, E. Fett, e. Nicolai, P. Mougnot, P. Paul, B. Cornet, P. Chamiot-Clerc*

MEDI 369. Discovery of 2-aminoisobutyric acid ethyl ester (AIBEE) phosphoramidate prodrugs that deliver high levels of the active triphosphate of nucleoside HCV inhibitors in human hepatocytes and in dog liver biopsies studies. *J.T. Randolph, T. Li, A.C. Krueger, H.R. Heyman, H. Chen, D. Bow, C. Van Handel, V. Peterkin, R.A. Carr, D. Stolarik, T. Dekhtyar, M. Irvin, P. Krishnan, R. Wagner, D.A. DeGoey*

MEDI 370. Design, synthesis and biological evaluation of novel 4-phenylisoquinolinone BET bromodomain inhibitors. *M. Bennett, Y. Wu, A. Boloj, J. Matuzkiewicz, S. O'Connell, L. Shi, R. Stansfield, J. Del Rosario, J. Veal, D. Hosfield, J. Xu, S. Kaldor, J. Stafford, J.M. Betancort*

MEDI 371. Anti-filarial activity of natural neuroleptin D and synthetic neuroleptin derivatives. *L. Perez-Perez, S.A. Williams, K.M. Shea*

MEDI 372. Identifying compounds that restore normal cellular function in Frontotemporal dementia caused by progranulin haploinsufficiency. *M. Telpeukhovskia, K. Liu, F. Sayed, J. Etchegaray, Y. Zhou, D. Le, M. Xie, M.S. Bogoy, S. Ding, L. Gan*

MEDI 373. Metal-free and mild approach to 1,3,4-oxadiazole-2(3H)-ones via oxidative C-C bond cleavage using molecular oxygen. *B. Lim, S. Park, J. Park, J. Gam, S. Kim, J. Yang, J. Lee*

MEDI 374. Design and synthesis of dimeric tetrahydroxanthones as anticancer agents. *R. Ali, G.A. Bradshaw, A.N. Leveille, A.E. Mattson*

MEDI 375. Four series of estrane derivatives as selective inhibitors of cytochrome P450 (CYP 1B1): Design, synthesis and evaluation. *D. Poirier, R. Dutour, J. Roy, R. Maltais, F. Cortés-Benitez*

MEDI 376. REAL database a comprehensive database of synthetically feasible molecules: an update. *Y. Moraz, M. Vybornyi, P. Mykhailiuk*

MEDI 377. Synthesis of novel bicyclic amines and their application for drug design. *P. Mykhailiuk*

MEDI 378. Design, synthesis, and evaluation of improved aminoglycosides. *M.G. Pirrone, T. Matsushita, G.C. Sati, T. Kato, S.N. Hobbie, T. Schreiber, J. Schacht, A. Vasella, E.C. Bottger, D. Crich*

MEDI 379. Fully automated radiosynthesis of carbon-11-labeled 5-HT_{2A} antagonists as new candidate PET radioligands for imaging of Alzheimer's disease. *M. Wang, M. Gao, Q. Zheng*

MEDI 380. Interaction of novel immunogenic cell death-inducing azonafides with DNA: A biophysical study. *S.G. Tarasov, P. Andrade Bonilla, W. Zhang, S. Sinha, N. Tarasova*

MEDI 381. Kinetic isotope effects of a 1,2,3,6-tetrahydropyridine-derived MAO-B substrate. *L. Drake, A. Mufarreh, J. Pham, A.F. Brooks, M. Kilbourn, P. Scott*

MEDI 382. Two strategies for imaging the receptor for advanced glycation end products. *L. Drake, A.F. Brooks, P. Scott*

MEDI 383. Aromatic sulfonamide library of human carbonic anhydrase IX inhibitors - towards anticancer drug design through chemical and crystallographic structure correlations with the thermodynamics of binding. *V. Linkuviene, A. Zubriene, V. Paketuryte, A. Smirnov, V. Petrauskas, D. Matulis*

MEDI 384. Elucidating the enzymatic activity of HDAC11. *C. Moreno Yruela, I. Galleano, A.S. Madsen, C.A. Olsen*

MEDI 385. Conformationally locked UDP and U₂₅J analogues as P2Y₆ receptor agonists. *K.S. Toti, S. Jain, A. Ciancetta, R. Balasubramanian, S. Chakraborty, R. Surujdin, Z. Shi, K.A. Jacobson*

MEDI 386. Synthesis, structural characterization and butyrylcholinesterase inhibition studies of ferrocene based anilides. *A. Altaf, A. Badshah, D.C. Crans*

MEDI 387. Design, synthesis, insecticidal activity and structure-activity relationship (SAR) of (1R)-(+)-verbenone derivatives. *M. Kim, K. Lee, Y. Choi*

MEDI 388. Potential lead compounds for the treatment of Alzheimer's disease: A peptide that blocks amyloid β induced neurotoxicity. *K. Fukuhara, T. Arai, A. Ohno, K. Mori, M. Shibamura, N. Miyata, H. Nakagawa*

MEDI 389. Unprecedented enantiomeric discrimination of the two chiral-forms of DNA "light-switching" Ru(II) cationic complex by living-cells via ion-pairing with achiral counter-anions. *B. Zhu*

MEDI 390. N-glycosylation inhibitors towards novel anti-cancer chemotherapeutics. *K. Mitachi, S. Eslamimehr, S.M. Kurasu, M. Kurosu*

MEDI 391. Design, synthesis and biological evaluation of novel discodermolide analogues leading to suppression of senescence and an increase cancer cell death. *B. Guo, A.B. Smith, H.M. Mcclaid, S.B. Horwitz*

MEDI 392. Insight into the drug likeness of 4-aminoantipyrene based thioureas: Synthesis, biological evaluation, molecular docking and molecular dynamic simulation studies. *A. Khurshid, A. Saeed*

MEDI 393. Colorectal cancer inhibition and cellular activities of (Z)-2-cinnamamido-3-phenyl-N-propylpropenamide (MOS-1512A). *K. Alireza*

MEDI 394. *In vitro* and *in vivo* activity of peptidomimetic compounds that target the periodontal pathogen *Porphyromonas gingivalis*. *P. Patil, J. Tan, D.R. Demuth, F.A. Luzzio*

MEDI 395. Synthesis of fluorescent goldnanocluster used in metal pollution sensing. *K. Sanyal*

MEDI 396. Synthesis of the analogs of oxazolidine moiety contained in antitumor agents. *T. Yang, S. Huang, Y. Shih*

MEDI 397. Synthesis and identification of prodrug: Using diclofenac sodium as the main drug. *I. Gunawan, H.D. Tabba*

MEDI 398. Novel biochemical insights in cerebrospinal fluid of patients with Neurosyphilis based on metabolomics study. *S. Qi, R. Luo, Q. Chen, D. Xu*

MEDI 399. Synthesis and anti-microbial evaluation of novel dihydrophthalazine-1, 4-diones congeners via green synthetic methodology. *V. Chittireddy*

MEDI 400. Chemical synthesis and biological evaluation of unnatural analogs of Amorfutrin. *L. Barasa*

MEDI 401. Drug-drug interactions severity prediction using PASS approach. *A. Dmitriev, D. Filimonov, A. Lagunin, A. Rudik, D. Karasev, K. Murtazaliev, V. Poroikov*

MEDI 402. Discovery of pharmacological potential of 9,10-anthraquinone dithiocarbamates: Virtual screening and experimental study. *M. Staveych, V. Zvarych, V. Novikov, S. Zagorodnya, O. Povnitsa, M. Chaika, M. Nesterkina, I. Kravchenko, T. Glorizova, V. Poroikov*

MEDI 403. Structure activity relationship (SAR) studies of NNRTI (non-nucleoside reverse transcriptase inhibitors) and nucleotide reverse transcriptase (NRTI) used to combat HIV, using Gaussian computational techniques. *S. Narayan, D.Z. Burgan, K.Y. Baldwin*

MEDI 404. Discovery and characterization of small molecules of long noncoding MALAT1 triple helix with anti-cancer therapeutic potential. *F. Abulwerdi, W. Xu, A. Ageeli, M. Yonkunas, G. Arun, J. Schneekloth, N.J. Baird, D. Specter, S. Le Grice*

MEDI 405. Detection of butyrylcholinesterase in living systems using a highly specific near-infrared fluorogenic substrate. *G. Yang, S. Liu, W. Yang*

MEDI 406. Biological activity of photoactivated iron metallocene anti-cancer compounds. *P. Olsen, J.M. O Connor*

MEDI 407. Asymmetric total synthesis of novel resolvins conjugates in tissue regeneration (RCTR). *T.F. Lam, R. Nshimiyimana, N.A. Petasis*

MEDI 408. Stereoccontrolled total synthesis of novel resolvins-related sulfidoconjugates. *R. Nshimiyimana, T.F. Lam, N.A. Petasis*

MEDI 409. Improved synthesis of *cis*-1, 4-cyclohexanediol. *W. Liu, H. Li, M. Yang*

MEDI 410. PPAR δ modulators improve mitochondrial function: Potential treatment for Duchenne muscular dystrophy (DMD). *B. Lagu, A.F. Kluge, E. Tozzo, M. Goddeeris, P. Dwyer, A. Basinsky, R. Fredenburg, R. Senaioz, M. Jaleel, N. Krishnamurthy, A. Lakshminarasimhan, N. Tiwari, T. Takahashi, M.A. Patane*

MEDI 411. Novel synthetic method for 5-aminooxan-3-ol hydrochloride. *J. Li, L. Qi, Q. Fei, H. Li, M. Yang*

MEDI 412. Synthesis and application of unnatural proline analogues: Advanced building blocks for medicinal chemistry. *P. Mykhailiuk, Y. Moroz, O. Michurin*

MEDI 413. Design, synthesis and application of novel building blocks to "Escape the Flatland" in medicinal chemistry. *Y. Moroz, P. Mykhailiuk, A. Tolmachev*

MEDI 414. [2+2]-photochemical synthesis and application of bicyclic amines: Advanced building blocks for medicinal chemistry. *Y. Moroz, P. Mykhailiuk, V. Lestevrov*

MEDI 415. Polyfunctional building blocks for drug discovery. *O. Gavrylenko, Y. Moroz, B. Rogovoy*

MEDI 416. Design, synthesis and application of novel morpholine surrogates. *P. Mykhailiuk*

MEDI 417. Design and synthesis of novel fluorinated amines. *P. Mykhailiuk*

MEDI 418. Total synthesis of nosokopich acid. *D. Pena, T. Tetrault, M.A. Boudreau*

MEDI 419. Distorted phthalocyanines via click-chemistry: synthesis, photoacoustic, photothermal and cell studies. *W. Rizvi, E. Khwaja, N.K. Bhupathiraju, A. Rizvi, C.M. Drain*

MEDI 420. Click chemistry on chlorins. *N. Bhupathiraju, W. Rizvi, C.M. Drain*

MEDI 421. Using adducts and fragments to identify compounds in mass-directed flash column chromatography. *J.R. Bickler*

MEDI 422. Calibration of analytical HPLC to generate preparative LC gradients. *J.E. Silver, R. Sorgo, A. Darter*

MEDI 423. Methanol as an alternative mobile phase solvent for reversed-phase peptide purification. *E. Denton, J.R. Bickler, J.J. Urh*

MEDI 424. Development of HPLC methods for analysis of cholesteryl esters with alkyl chains of odd number length. *K. Lilly, M.Q. Irving, J. Hughes, J. Schentag, L. Mielnicki, M. McCourt*

MEDI 425. *pro*-Pyrrolobenzodiazepine (*pro*-PBD) bioconjugates, part 3: Design and synthesis of *pro*-PBD conjugates containing a self-immolative substituted disulfide linkers. *I.R. Vlahov, L. Qi, H.K. Santhapuram, G.L. Parham, K.Y. Wang, J.F. Vaughn, S.J. Hahn, M. Vetzal, M. Nelson, J. Reddy, C.P. Leamon*

MEDI 426. *pro*-Pyrrolobenzodiazepine (*pro*-PBD) bioconjugates, part 4: Design of novel oxime-based *pro*-PBD conjugates that release active drug via intramolecular diazepine-ring-closure. *I.R. Vlahov, A. Felten, N. Zou, K.Y. Wang, S.J. Hahn, J.F. Vaughn, M. Vetzal, M. Frieden, M. Nelson, J. Reddy, C.P. Leamon*

MEDI 427. Drug delivery of xanthohumol to adipocytes using ultrasmall superparamagnetic iron oxide nanoparticles (USPIO). *I. Khaki Najafabadi, V.V. Mody, J. Samuels, R. Dansby-Sparks, S. Raylam, A. Singh, R. Deshmukh*

MEDI 428. Hygromycin A, an antimicrobial with selective activity against *Borrelia burgdorferi* for treatment of Lyme disease. *Y. Imai, X. Wu, M. Caboni, Q. Favre-Godal, S. Niles, K. Megan, A. Iinishi, K. Lewis*

MEDI 429. Evaluation of antibacterial activity of *Vangueria volkensii* extracts. *A.K. Addo-Mensah, D. Holland*

MEDI 430. Synthesis and biological evaluation of benzimidazoles as FKBF inhibitors. *S.K. De*

MEDI 431. Disabling the resistance of methicillin-resistant *Staphylococcus epidermidis* (MRSE). *A.K. Lam, M. Foxley, C.V. Rice*

MEDI 432. Regioselectivity of N-substituted 3-nitropyrazole alkylations. *S. Bao, J. Perea, N. Norman, A. Huang*

MEDI 433. Targeting trimethylamine oxide biosynthesis pathway discovery of new inhibitors against TMA lysate protects against atherosclerosis lesion, MI and stroke. *A. Duzan*

MEDI 434. Targeting the trimethylamine oxide biosynthesis pathway: Discovery new novel inhibitors against gut microbial TMA lysate protects against atherosclerosis lesion, MI and stroke. *A. Duzan, A. Roberts, J. Buffa, S. Hazen, V. Gogonea*

MEDI 435. DCBCO1303-a promising inhibitor of smoothened hedgehog pathway signalling. *M. Kuo*

MEDI 436. Studies into the enzymatic action and immunomodulatory activity of isopentenyl-diphosphate isomerase. *M.A. Schladetsch, A.J. Wiemer*

MEDI 437. Practical modular synthesis of targeted imaging agents for MRI, PET and PET-MRI. *K. Jones, A. Sweeny-Jones, J. Perez, S. Beach, C. Weidman, M. Regan, S. Williams, H.F. Schmitthenner*

MEDI 438. Activity prediction by deer fingerprinting. *P. Schneider*

MEDI 439. Prenylated isoflavones: Comparison of distribution coefficients, hydrogen bonding acidity values and positions within detergent micelles. *S. Tuck, W.L. Whaley, M. Abraham*

MEDI 440. Theranostic antibody-drug conjugates for potential dual application in targeted therapy and fluorescence imaging of colorectal cancer. *S. Ren, X. Sun, H. Xu, T. Nguyen, C. Kang, N. Sadeghipour, X. Xu, N. Wu, Y. Chen, K. Tichauer, D.D. Minh, H.S. Chong*

MEDI 441. New bifunctional ligands of Zr-89 for potential applications in antibody-targeted positron emission tomography (PET) imaging and precision medicine. *Y. Chen, S. Ren, C. Kang, Y. Liu, S. Zhang, H.S. Chong*

MEDI 442. Targeted nanoparticles for pathogen-specific drug delivery. *L. Schnorbus, L.J. Perez*

MEDI 443. Fructose-enhanced antimicrobial activity of self-assembled nano peptide amphiphiles for treating antibiotic resistant infections. *M. Gao, K. Chang, d. Wang, Y. Li, L. Sun, S. Lustig, T. Webster*

MEDI 444. Solid lipid nanoparticle (SLN) from toleogen diet lipids: Anxiolytic and anticonvulsant effect. *E.V. Tolelo*

MEDI 445. Aminolipid structure-activity relationships in lipid nanoparticle *in vivo* performance. *M.A. Cornebise, K. Benenato, L. Brito, W. Butcher, K. Davis, J. Deterling, K. Hassett, N. Jordan, L. Knowles, E.S. Kumarasinghe, D. Mampreian, J. Milton, K. Olsen, S. Sabnis, T. Salerno, J. Sanabria, A. Sengooba, P. Shah, M. Stanton, A. Woods*

MEDI 446. Preparation and characterization of new solid micro and nanodispersions of amorphous drugs. *J. Cruz, P. Morales, C. Martínez, M. Videá, L.M. Martínez*

MEDI 447. Design and development of small molecule RelA/RSH inhibitors. *D.C. Hall, H. Ji, G.D. Ehrlich, J. Krol*

MEDI 448. Reducing tau phosphorylation using synthetic peptides: Developing peptide-based inhibitors of microtubule affinity regulating kinase 2 (MARK2). *J.M. Holub, N. Alqaesoom, C. Qian, D. Arachchige, R. Colvin*

MEDI 449. Synthesis of water soluble anthraquinoneaminoacrylamides and their glioblastoma cell viability. *N. Pianovich, B.S. Jursic*

MEDI 450. Synthesis and characterization of aspirin and indomethacin prodrugs. *A. Mahmoud, H.D. Tabba, Y.M. Hijji*

MEDI 451. Homology models of G protein-coupled receptors: quantitative studies to assess feasibility and applicability to drug discovery. *S. Costanzi*

MEDI 452. Way2drug platform – ligand-based approach to drug repurposing. *D. Druzhilovskiy, A. Rudik, D. Filimonov, G. Sastry, V. Poroikov*

MEDI 453. Cholesteryl ester vesicle-mediated delivery of GFP plasmid into retinal epithelial cells *in vitro*. *R. Meechan, M.Q. Irving, J. Hughes, J. Fraser-McArthur, J. Schentag, L. Mielnicki, M. McCourt*

MEDI 454. Fragment-based approaches to targeting the CoA pathway. *A.G. Coyne*

MEDI 455. Three new cytotoxic steroidal glycosides isolated from *Conus pulicarius* collected in Kosrae, Micronesia. *Y. Lee, S. Kim, H. Lee, J. Lee, J. Lee*

NUCL

Division of Nuclear Chemistry and Technology

J. Auxier, Program Chair

SOCIAL EVENTS:

Social Hour, 6:30 PM: Tue

BUSINESS MEETINGS:

Business Meeting, 4:00 PM: Sun
Business Meeting, 5:30 PM: Tue

SUNDAY MORNING

SECTION A

Seaport Boston Hotel
Flagship A

NUCL/ORGN

Honor Symposium for Dr. Leonard Mausner

Cosponsored by PROF
C. S. Cutler, S. S. Jurisson, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 NUCL 1. Leonard Mausner's leadership and accomplishments within the Department of Energy Isotope Program. *M. Garland*

8:25 NUCL 2. High power accelerator targets for large scale production of radionuclides at intermediate energies. *F.M. Nortier*

8:45 NUCL 3. American Chemical Society's summer schools in nuclear and radiochemistry. *L. Pena, P. Baisden, A.L. Van Wyngarden, J.D. Robertson*

9:05 Intermission.

9:20 NUCL 4. Evaluation of neutron inelastic scattering for radioisotope production. *S. Mirzadeh, J. Griswold, M. Garland*

9:40 NUCL 5. Radioisotope research and production for radioimmunotherapy: A multidisciplinary collaborative effort. *K. Kolsky*

10:00 NUCL 6. Reactor production of promethium-147 for application in beta voltaic batteries. *K. Broderick, R. Lusk, J. Griswold, R.A. Boll, M. Garland, L. Heilbronn, S. Mirzadeh*

10:20 NUCL 7. Impact of inorganic chemistry and Leonard Mausner on radiopharmaceutical development. *C.S. Cutler*

10:40 Intermission.

10:55 NUCL 8. Radium targets for the reactor production of alpha-emitting medical radioisotopes. *R. Copping, D. Denton, K. Murphy, E. Hickman, C. Marcus, D. Stracener, S. Mirzadeh*

11:15 NUCL 9. PHITS and MCNP6 Monte Carlo simulations for the $^{232}\text{Th}(p, 4n)^{229}\text{Pa}$ reaction cross section at 192 MeV compared with the experimental cross section. *J. Griswold, D.G. Medvedev, R. Copping, L.F. Mausner, L. Heilbronn, S. Mirzadeh*

11:35 NUCL 10. Challenges and opportunities in radioisotope research and development irradiations at Brookhaven Linac isotope producer. *D.G. Medvedev, A. DeGraffenreid, V.A. Sanders, S.O. Kureczak, L. Muench, S. Bellavia, C. Cullen, C.S. Cutler, L.F. Mausner*

11:55 NUCL 11. Thirty six years of radioisotope research: some of the fun stuff. *L.F. Mausner*

SUNDAY AFTERNOON

SECTION A

*Seaport Boston Hotel
Flagship A*

New Radioisotope Chemistry for Nuclear Medicine

J. D. Brockman, R. P. Planalp, *Organizers, Presiding*

2:00 Introductory Remarks.

2:05 NUCL 12. Ligand design for alpha therapy nuclides. *J.J. Wilson, N.A. Thiele, V. Radchenko*

2:35 NUCL 13. Pseudo-synthesis-free PET imaging of α, β_2 integrin via its pro-ligand. *J. Yang, J. Yang, C. Ran*

3:05 NUCL 14. Synthesis of novel Zr-89 bifunctional ligands based on desferrioxamine: Design, eight-coordination, and speciation. *R.P. Planalp, A. Chung, B.S. Barron, M. Abdalrahman*

3:35 Intermission.

3:55 NUCL 15. Engineering lanthanide-binding proteins for hepatocellular carcinoma detection and treatment. *M.P. Takacs, Z. Lengyel, A. Kulesha, I.V. Korendovych*

4:25 NUCL 16. Mn-52 radiolabelling for quantitative characterization of Mn-based MRI contrast agents. *H. Wang, I. Ramsay, P. Caravan, E. Gale*

4:55 Concluding Remarks.

MONDAY MORNING

SECTION A

*Seaport Boston Hotel
Flagship A*

Nuclear Forensics

J. D. Auxier, T. A. Bredeweg, R. G. Surbella, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 NUCL 17. Development of synthetic nuclear melt glass representative of an urban post detonation environment for forensic analysis. *N. Kaminski, G. Bull, D.E. Riegner, R. Gilbreath, J. Alexander, M. James, D. Zheng*

8:25 NUCL 18. Mass transport in glassy fallout particles from a near surface nuclear explosion. *D. Weisz*

8:45 NUCL 19. Chemical analysis of synthetic nuclear melt glass (urban). *G. Bull, D.E. Riegner, N. Kaminski*

9:05 Intermission.

9:20 NUCL 20. Comparison of microwave dissolution to open vessel fusion methods using ammonium bifluoride for dissolution of post nuclear detonation debris. *N. Hubley, M. Rearick, C. Liebman, W. Dana, T. Weilert, J.D. Robertson, J.D. Brockman*

9:40 NUCL 21. Measuring key isotope ratios in two irradiated UO₂ fuel samples for the attribution forensics of separated Pu. *K.J. Glennon, J.M. Osborn, J.D. Burns, E.D. Kitcher, S.S. Chirayath, C.M. Folden*

10:00 NUCL 22. BET surface analysis of ADU materials. *J. Dorhout, G. Wagner, N. Wozniak, M.P. Wilkerson*

10:20 Intermission.

10:35 NUCL 23. Experimental and theoretical analysis of selective binding of lanthanides and actinides.

D.A. Penchoff, C.C. Peterson, M.S. Quint, J.R. Powers-Luhn, J.D. Auxier, G.K. Schweitzer, D.M. Jenkins, R.J. Harrison, H.L. Hall

10:55 NUCL 24. First principles investigation of the structural and bonding properties of hydrated actinide (IV) oxalates, $\text{An}(\text{C}_2\text{O}_4)_2 \cdot 6\text{H}_2\text{O}$ (An = U, Pu). *K.E. Garrett, A. Ritzmann, F.N. Smith, S.H. Kessler, N. Henson, D.G. Abrecht*

11:15 NUCL 25. Application of a silicon drift detector to actinide L X-rays. *R.S. Rundberg, A. Roman, K. Shield, K. Thornock*

Chemistry of Molten Salts

Sponsored by I&EC, Cosponsored by NUCL

MONDAY AFTERNOON

SECTION A

*Seaport Boston Hotel
Flagship A*

Environmental Radiochemistry

Cosponsored by GEOC

M. Altmaier, X. Gaona, B. A. Powell, M. Zavarin, *Organizers*
A. E. Hixon, D. T. Reed, *Organizers, Presiding*

1:00 NUCL 26. Thermodynamic data selection. Filling the gap between NEA-TDB and performance assessment needs. *L. Duro, M. Grivé, E. Colàs*

1:30 NUCL 27. Reference thermodynamic data for modelling of deep geological repositories: The NEA Thermochemical Database (TDB) Project. *M. Ragoussi, J. Martinez*

1:50 NUCL 28. Thermodynamic modelling of Selenium in environmental conditions: Traps, pitfalls and perspectives. *F. Bak, N. Jordan, V. Brendler*

2:10 NUCL 29. Keggin POMs as metal oxide models to understand the binding and stability of Tc-99. *S. Pollozi, L.C. Francesconi, D.M. McGregor, G.E. Lopez*

2:30 Intermission.

2:50 NUCL 30. Solution chemistry of Pu in alkaline reducing systems: Redox, solubility and complexation with organic ligands. *X. Gaona, A. Tasi, D. Fellhauer, T. Rabung, J. Rothe, R. Polly, M. Grivé, E. Colàs, J. Bruno, K. Källström, M. Altmaier, H. Geckeis*

3:10 NUCL 31. Plutonium redox interactions in ternary iron-EDTA systems. *N. Moore, E. Yalcintas, D.T. Reed, A.E. Hixon*

3:30 NUCL 32. $\text{NpO}_2(\text{s})$ dissolution under vadose zone conditions. *K.M. Peruski, M. Maloubier, D. Kaplan, B.A. Powell*

3:50 NUCL 33. Effect of EDTA on An(IV) chemistry under repository relevant conditions. *E. Yalcintas, X. Gaona, M.K. Richmann, M. Altmaier, D.T. Reed*

4:10 NUCL 34. Reductive removal of Tc and Cr from a waste stream using zero valent iron. *H.P. Palmer Emerson, D. Boglaenko, A. Gebru, J. Williams, A. Maria, T.G. Levitskaia, Y. Katsenovich*

Chemistry of Molten Salts

Sponsored by I&EC, Cosponsored by NUCL

TUESDAY MORNING

SECTION A

*Seaport Boston Hotel
Flagship A*

Environmental Radiochemistry

Cosponsored by GEOC

M. Altmaier, A. E. Hixon, B. A. Powell, D. T. Reed, *Organizers*
X. Gaona, M. Zavarin, *Organizers, Presiding*

8:00 NUCL 35. Studies on An(IV)-hydroxo-carbonate complex formation along the An(IV) = Th, U, Np, Pu series. *M. Altmaier, J. Schepperle, E. Yalcintas, N. Cevirim, D. Fellhauer, X. Gaona, H. Geckeis*

8:30 NUCL 36. Different iron (hydr) oxide modified cementitious material for uranium (VI) immobilization.

B. Cao, S. Fan, M. Li, Y. Hu

8:50 NUCL 37. Technetium sulfide as a potential immobilization form for Tc-99 in the environment: Stability and dissolution studies. *R.K. Gudavalli, N.P. Qafoku, V. Anagnostopoulos*

9:10 NUCL 38. Observation and characterization of Pd-Tc compounds within noble metal inclusions in spent nuclear fuel. *S.H. Kessler, T. Lach, E. Buck, J. Schwantes, R. Clark*

9:30 Intermission.

9:50 NUCL 39. Competitive metal and REE coprecipitation with ferrihydrite nano-particles. *C. Zhu*

10:20 NUCL 40. Kinetics of the uranyl peroxide nanocluster U60 sorption to goethite and magnetite. *L.R. Saderegaski, A.E. Hixon*

10:40 NUCL 41. Isotopic signature and nano-texture of cesium-rich micro-particles: Release of uranium and fission products from the Fukushima Daiichi Nuclear Power Plant. *J. Imoto, A. Ochiai, M. Suetake, R. Ikehara, K. Horie, M. Takehara, S. Yamasaki, T. Ohnuki, G.T. Law, B. Grambow, R.C. Ewing, S. Utsunomiya*

11:00 NUCL 42. Investigation of magnetic nanoparticles (Fe_3O_4) anchored 3D-Graphene Foam (3D-MGF) as an adsorbent for strontium adsorption using Central Composite Design (CCD) method. *S. Kasap*

TUESDAY AFTERNOON

SECTION A

*Seaport Boston Hotel
Flagship A*

Environmental Radiochemistry

Cosponsored by GEOC

X. Gaona, A. E. Hixon, D. T. Reed, M. Zavarin, *Organizers*
B. A. Powell, M. Altmaier, *Organizers, Presiding*

1:00 NUCL 43. Soil organic matter and plutonium interactions. *D. Kaplan, C. Xu, P. Lin, K. Schwehr, N. Fujitake, C. Yeager, P.H. Santschi*

1:30 NUCL 44. Biogeochemistry of plutonium in subsurface environments. *D.T. Reed, J. Swanson*

1:50 NUCL 45. Examining radionuclide uptake by flora surrounding the Olympic Dam Cu-U-Au-Ag Mine in South Australia. *S. Pandelus, A. Pring, C.E. Lenehan, R.S. Popelka-Filcoff*

2:10 NUCL 46. Potential for transport of cesium and lanthanides as biocolloids in a high ionic strength system. *F. Zengotita, H.P. Palmer Emerson, T.M. Dittrich, J. Swanson, M.K. Richmann, D.T. Reed*

2:30 Intermission.

2:50 NUCL 47. Plutonium phases in Hanford-derived wastes. *E. Buck, D.R. Reilly*

3:20 NUCL 48. Desorption kinetics of plutonium from altered nuclear melt glass colloids. *C. Joseph, E. Balboni, T. Baumer, K. Treinen, A. Kersting, M. Zavarin*

3:50 NUCL 49. Equilibrium and kinetic studies of lanthanide and actinide sorption to aluminum (hydr)oxide minerals. *T. Baumer, A.E. Hixon*

4:10 NUCL 50. Batch sorption of Eu, U, Np, and Pu to the iron oxide mineral hematite was examined at variable temperatures and ionic strengths. *B.A. Powell, J. Mangold, A. Schnurr*

WEDNESDAY MORNING

SECTION A

*Seaport Boston Hotel
Flagship A*

General Topics in Radiochemistry

L. C. Francesconi, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 NUCL 51. ^{18}F -Deoxyfluorination of phenols via Ru π -complexes. *M. Beyzavi, D. Mandal, M. Strelb, C. Neumann, E. D'Amato, J. Chen, J.M. Hooker, T. Ritter*

8:25 NUCL 52. Gas-phase complexes of lanthanides and americium with bis-triazynyl pyridine. *T. Jian, D. Dan, T.E. Albrecht-Schmitt, J.K. Gibson*

8:45 NUCL 53. Synthesis and characterization of gas-phase uranyl peroxide dimer complexes. *J. Jian, Q. Wu, S. Jansone-Popova, A. Bubas, I. Tatosian, M.J. Van Stipdonk, J. Martens, G. Berden, J. Oomens, W. Shi, J.K. Gibson*

9:05 Intermission.

9:20 NUCL 54. How x-ray absorption spectroscopy merge with theoretical models to solve actinides and technetium structure in solvent extraction. *T. Dumas, M. Charbonnel, N. Boubals, E. Acher, D. Guillaumont, C. Tamain*

9:40 NUCL 55. Experimental and computational investigation of the separation mechanism of ALSEP. *B.D. Etz, G. Picayo, A.T. Ta, M.P. Jensen, S. Vyas*

10:00 NUCL 56. Ligand dynamics at the liquid-liquid interface in ALSEP process. *A.T. Ta, G.A. Hegde, S. Vyas*
Visualizing Heavy Element Contamination in the Environment at the Nanoscale

Sponsored by GEOC, Cosponsored by ENVR and NUCL⁺

WEDNESDAY AFTERNOON

SECTION A

*Seaport Boston Hotel
Flagship A*

Radiochemistry Education

M. A. Deri, D. M. McGregor, *Organizers, Presiding*
1:00 Introductory Remarks.

1:05 NUCL 57. Educational outreach using nuclear science and fiction in *Star Trek*. *J.C. Bryan*

1:25 NUCL 58. Teaching nuclear science in the general education curriculum. *A.C. Mignerey*

1:45 NUCL 59. Video-based approach to incorporating radiochemistry into the general chemistry curriculum and as an upper level elective for undergraduate chemistry majors. *S. Pollozi, D.M. McGregor*

2:05 Intermission.

2:25 NUCL 60. Nuclear workforce development: The University of Missouri experience. *S.S. Jurisson*

2:45 NUCL 61. Interdisciplinary approach to radiochemistry education at Colorado State University. *R. Sudawe*

3:05 NUCL 62. Radiochemistry at the Colorado School of Mines: Golden opportunities. *J.C. Shafer, M.P. Jensen*

3:25 NUCL 63. Returning the radio to chemistry: Integrating radiochemistry into a Ph.D. program at Hunter College catalyzed by the NSF-IGERT program. *L.C. Francesconi*

3:45 Concluding Remarks.

WEDNESDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Computational Methods for Lanthanides and Actinides: Theory & Applications

Cosponsored by COMP
 D. A. Penchoff, C. Peterson, *Organizers*

6:30 – 8:30

NUCL 64. Physicochemical properties of defect laden uranium. *D. Pope, A.E. Clark*

NUCL 65. Software and analysis methods for the determination of americium in plutonium via alpha spectrometry. *D.R. Porterfield, M.D. Yoho, J. Rim, S. Landsberger*

NUCL 66. Making americium-241 greatly again. *D.R. Porterfield, J. Rim, M.D. Yoho*

NUCL 67. Radiochemistry education through controlled remote instrumentation. *D.R. Porterfield*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Environmental Radiochemistry

M. Altmaier, X. Gaona, A. E. Hixon, B. A. Powell, D. T. Reed, M. Zavarin, *Organizers*

6:30 – 8:30

NUCL 68. Solubility, complexation and redox behaviour of Tc(IV): Effect of carbonate, sulfate and nitrate. *X. Gaona, A. Baumann, S. Duckworth, E. Yalcintas, R. Polly, M. Altmaier, H. Geckeis*

NUCL 69. Studies on actinide chemistry at elevated temperatures at KIT-INE within the German collaborative ThermAc project. *M. Altmaier, F. Endrizzi, J. Lee, D. Fellhauer, X. Gaona*

NUCL 70. Actinide solubility and speciation in the WIPP. *D.T. Reed, M.K. Richmann, J. Swanson, E. Yalcintas*

NUCL 71. Fate of actinides in the presence of EDTA and dolomite at variable ionic strength. *H.P. Palmer Emerson, F. Zengotita, D.T. Reed*

NUCL 72. Role of methods from voluntary consensus standards development organizations. *D.R. Porterfield*

THURSDAY MORNING

SECTION A

*Seaport Boston Hotel
Flagship A*

Radiochemistry Education

M. A. Deri, D. M. McGregor, *Organizers, Presiding*
8:30 Introductory Remarks.

8:35 NUCL 73. Nuclear and Radiochemistry at the University of Alabama at Birmingham. *S.E. Lapi*

8:55 NUCL 74. Environmental radiochemistry at the University of Central Florida: Biogeochemical transformations of radionuclides in the environment. *V. Anagnostopoulos*

9:15 NUCL 75. Training students within the Actinide Center of Excellence. *A.E. Hixon, J.E. Szymanski, G. Sigmon, P.C. Burns*

9:35 NUCL 76. Radiochemistry education opportunities at Lawrence Livermore National Laboratory. *M. Zavarin*

9:55 Intermission.

10:15 NUCL 77. Making radiochemistry meaningful to high school students through engagement at a national laboratory. *A. Perez, B. Uzzi, C.S. Cutler*

10:35 NUCL 78. What is radioactive in this room? *C.H. Middlecamp*

10:55 NUCL 79. Development of a nuclear forensics chemistry coursework. *J.D. Auxier, M.T. Cook*

11:15 Concluding Remarks.

THURSDAY AFTERNOON

SECTION A

*Seaport Boston Hotel
Flagship A*

Computational Methods for Lanthanides and Actinides: Theory & Applications

Cosponsored by COMP
 D. A. Penchoff, C. Peterson, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 NUCL 80. Role of electronic excitation and the effect of structural and composition changes in ion-irradiated $\text{La}_2\text{Ti}_2\text{Zr}_2\text{O}_7$ pyrochlores. *M. Sassi, S. Spurgeon, T. Kaspar, V. Shutthanandan*

1:25 NUCL 81. Importance of the unprecedented δ back-donation in An^{IV} metallocycles. *I.A. Popov, M.P. Kelley, E.R. Batista, P. Yang*

1:45 NUCL 82. Relativistic *ab initio* accurate minimal basis sets for the heavy elements. *G. Schoendorff*

2:05 Intermission.

2:20 NUCL 83. Utilizing computational protocols for binding selectivity of lanthanide and actinide compounds. *C.C. Peterson, D.A. Penchoff, H.L. Hall, R.J. Harrison*

2:40 NUCL 84. Evaluating the performance of electronic structure methods on predictions of Raman and IR spectroscopy of UF_6 and MoF_6 . *J.R. Powers-Luhn, C.C. Peterson, J. Lux, J.D. Auxier, D. Penchoff, H.L. Hall*

3:00 Intermission.

3:15 NUCL 85. Towards stability constant prediction in uranium siderophore complexes. *J.L. Sonnenberg, M.E. Kirby, A. Simperler, S. Krevor, D.J. Weiss*

3:35 NUCL 86. Dynamic solvation behavior of organic ligands within the ALSEP process. *A.T. Ta, G.A. Hegde, S. Vyas*

3:55 Concluding Remarks.

ORGN

Division of Organic Chemistry

R. Broene and S. Silverman, *Program Chairs*

SUNDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 255*

New Reactions & Methodology

R. D. Broene, *Organizer*
 R. A. Altman, *Presiding*

8:20 ORGN 1. Low-cost and versatile trifluoromethylation reagents. *F. Qing*

8:40 ORGN 2. Towards catalytic deoxytrifluoromethylation. *R.A. Altman*

9:00 ORGN 3. Fluorination reactions with the combination of sulfonyl fluoride and tetramethylammonium fluoride. *P.R. Melvin, S.D. Schimler, M.S. Sanford*

9:20 ORGN 4. Development of a crystalline, shelf-stable reagent for the synthesis of fluoroalkylsulfates and sulfamoyl fluorides. *C. Ende, H. Zhou, P. Mukherjee, R. Liu, E. Evrard, D. Wang, J.M. Humphrey, T. Butler, L. Hoth, J. Sperry, S. Sakata, C.J. Helal*

9:40 ORGN 5. Lewis acid activation of sulfonyl fluorides to form sulfonamides. *P. Mukherjee*

10:00 ORGN 6. Concise synthesis of acylboronates by ozonolysis and their application to oligopeptide synthesis. *J. Taguchi, T. Ikeda, R. Takahashi, I. Sasaki, J.W. Bode, H. Ito*

10:20 ORGN 7. Suzuki–Miyaura cross-coupling reactions of geminal bis(boryl)cyclopropanes: A modular approach to the synthesis of gem-disubstituted cyclopropanes. *M. Harris, H. Wisniewska, J. Wenhua, X. Wang, J. Bradov*

10:40 ORGN 8. Transition-metal-free reductive coupling of allenylboronic acids and tosylhydrazones. *D. Wang, M. de Wit, K. Szabo*

11:00 ORGN 9. Phosphine-based reagent system for deoxafluorination. *S.B. Munoz, H. Dang, V. Krishnamurti, S.G. Prakash*

11:20 ORGN 10. Novel methods for reactivity umplungs of nitrogen-containing compounds. *M.D. Cliff, L.M. Mori Quiroz, S.S. Londhe, C. Comadoll*

SECTION B

*Boston Convention & Exhibition Center
Room 256*

Heterocycles & Aromatics

R. D. Broene, *Organizer*
 A. M. Whittaker, *Presiding*

8:00 ORGN 11. Metal mediated synthesis of 2-substituted 2, 3-dihydrobenzofurans. *A. Nath, M. Khan*

8:20 ORGN 12. Pd(II)-Ce(IV) cooperative induction of intramolecular oxidative cyclization of α -propargylated 1,3-ketoesters: A rapid construction of 2,4-diacylfurans. *S. Ruengsangtongkul, N. Chaisan, C. Thongsornkleeb, J. Tummatarn, S. Ruchirawat*

8:40 ORGN 13. Diversity-oriented synthesis for the generation of *N*-substituted quaternary carbon containing small molecules from α,α -disubstituted propargyl amino esters. *S. Kidd, N. Mateu-Sanchis, A. Madin, D.R. Spring*

9:00 ORGN 14. Access to sulfides and sulfur heterocycles by oxidative C-S bond formation using Mo^{V} reagents. *P. Franzmann, S.B. Beil, S.R. Waldvogel*

9:20 ORGN 15. Functionalization of aromatic nitrogen heterocycles with cyclopropanols: The cyclopropanol Minisci reaction. *A. Orellana, A. Nikolaev, M. Zhang*

9:40 ORGN 16. Development of a robust copper-catalyzed cross coupling enabling the synthesis of verubecestat. *E. Phillips*

10:00 ORGN 17. Active molybdenum anode as alternative in reagent-mediated dehydrogenative coupling reactions. *S.B. Beil, T. Mueller, P. Franzmann, S.R. Waldvogel*

10:20 ORGN 18. Synthesis of substituted pyridones via 6 π -electrocyclization of dienyl isocyanates. *X. Cheng, K. Zhu, A.P. Taylor*

10:40 ORGN 19. Extended π -conjugated structures through dehydrative arene-arene coupling. *C.A. Voll, T.M. Swager*

11:00 ORGN 20. Systematic experimental investigation of BN acene isomers. *J.S. Ishibashi, S.Y. Liu*

11:20 ORGN 21. Using the Diels-Alder reaction in the synthesis of biologically interesting molecules: Targets of opportunity. *E. DeCicca, J.A. Cady*

11:40 ORGN 22. Atom-economical method to prepare enantiopure benzodiazepines with *N*-carboxyanhydrides. *A.M. Whittaker, P. Fier*

SECTION C

*Boston Convention & Exhibition Center
Room 254A*

Photoredox Chemistry

R. D. Broene, *Organizer*
 J. A. Kalow, *Presiding*

8:40 ORGN 23. Reductive amination and enantioselective amine synthesis by photoredox catalysis. *X. Guo, O.S. Wenger*

9:00 ORGN 24. Probing the regioselectivity in Pauson-Khand and oxidative 6 π -electrocyclization/aromatization reactions, a possible intermediate detection using SABRE and PHIP. *N.P. Yahaya*

9:20 ORGN 25. Alkene oxyamination by net-oxidative photoredox catalysis. *N. Reed, M. Herman, V. Miltchev, T.P. Yoon*

ORGN

9:40 ORGN 26. Aliphatic C-H alkylation via photoredox catalysis. *C. Morton, G. Choi, Q. Zhu, R.R. Knowles, E.J. Alexanian*

10:00 Intermission.

10:10 ORGN 27. Photoinduced copper-catalyzed stereoselective 1,2-*cis* glycosylation reactions. *H.M. Nguyen*

10:30 ORGN 28. C-N cross-coupling via photoexcitation of nickel-amine complexes. *C. Lim, M. Kudisch, B. Liu, G. Miyake*

10:50 ORGN 29. Copper templated [2+2] cycloadditions of unactivated olefins utilizing weakly coordinating anions. *C.S. Gravatt, T.P. Yoon*

11:10 ORGN 30. Photochemical methods for the synthesis of π -conjugated polymers. *J.A. Kalow*

SECTION D

*Boston Convention & Exhibition Center
Room 254B*

Green Chemistry Innovations as a Useful Tool in the Pharmaceutical Industry

I. Martinez, Organizer

D. Entwistle, Organizer, Presiding

8:00 Introductory Remarks.

8:15 ORGN 31. C-H oxidation via base-metal catalysis. *M. White*

8:55 ORGN 32. Application of transition metal catalysis to a borylation step for the synthesis of crisaborole. *J. Magano*

9:25 ORGN 33. PEPSI is red, white and blue, but PEPPSI is green. *M.G. Organ*

10:05 Intermission.

10:15 ORGN 34. Application of green chemistry strategies and philosophies in medicinal chemistry. *M.C. Bryan*

10:45 ORGN 35. Engineering halogenases for sp^2 and sp^3 C-H halogenation. *J.C. Lewis*

11:25 ORGN 36. Engineering enzymes for more efficient and greener API syntheses. *M. Borra-Garske*

SECTION E

*Boston Convention & Exhibition Center
Room 253C*

Young Investigator Symposium

J. Aube, Organizer, Presiding

8:00 ORGN 37. Boron- and copper-based TADF emitters: Synthesis, photochemical characterization and OLED device performance. *D.S. Laitar, T.P. Clark, D.D. Devore, T.S. De Vries, J. Jeon, K. Kearns, S. Mukhopadhyay, H. Na, A. Rachford*

8:30 ORGN 38. Discovery of GDC-0077: A highly selective inhibitor of PI3K α that induces degradation of mutant-p110 α protein. *M. Braun*

9:00 ORGN 39. Preparation and optimization of macrocyclic peptide-like inhibitors for intravenous applications. *R. Lira*

9:30 ORGN 40. Expedient synthesis of chiral tryptamines via a regioselective indole alkylation. *C.K. Chung*

10:00 ORGN 41. Innovative chemistry enabling drug discovery: Leveraging new frontiers in organic synthesis to improve success rate. *T.J. Greshock*

10:30 ORGN 42. Design and synthesis of high carbon content polymers via catalytic oxidative cross-coupling reactions for application in advanced manufacture. *S. Liu*

11:00 ORGN 43. Flow chemistry: Impact on early process development. *B. Cardinal-David*

11:30 ORGN 44. Commercial route development of a SMO inhibitor. *A.L. Puchlopek-Dermenci*

Moving the Safety Values of the ACS Forward

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Reporting & Reproducibility of Chemistry Research Data

Sponsored by CINF, Cosponsored by ETHX and ORGN

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 255*

New Reactions & Methodology

R. D. Broene, Organizer

J. J. Chruma, Presiding

1:10 ORGN 45. Diversity-oriented synthesis of heterocycles: Al(OH)₃ promoted cascade cyclization and ionic hydrogenation. *T. Liu, W. Jia, Q. Xi, Y. Chen, X. Wang, D. Yin*

1:30 ORGN 46. Development of novel ruthenium catalyzed cycloaddition reactions via hydrogen transfer and the synthetic application for polycyclic aromatic hydrocarbons. *H. Sato, M.J. Krische*

1:50 ORGN 47. Pd/C-catalyzed aromatization of alicyclic substrates in water. *N. Yasukawa, H. Yokoyama, M. Masuda, Y. Monguchi, H. Sajiki, Y. Sawama*

2:10 ORGN 48. Anion exchange resin supported - palladium catalyst for chemoselective hydrogenation and Suzuki-Miyaura reaction using aryl chlorides. *T. Ichikawa, M. Netsu, M. Mizuno, Y. Sawama, Y. Monguchi, H. Sajiki*

2:30 ORGN 49. Chiral lanthanide triflates enable enantiodivergent asymmetric transformations. *A. Richardson, P.S. Riehl, T. Sakamoto, J. Ludwig, C. Schindler*

2:50 ORGN 50. New catalysts for carbonyl-olefin metathesis. *A.J. Davis, C. Schindler*

3:10 ORGN 51. C-N bond formation: Oxidation and metal-mediated transfer of carbamate-derived nitrenes for the intramolecular aziridination of alkenes. *M.R. Lasky, E.C. McLaughlin*

3:30 ORGN 52. Palladium-catalyzed dearomative syn-1,4-aminofunctionalizations. *M. Okumura, W.C. Wertjes, A.S. Shved, D. Sarlah*

3:50 ORGN 53. Functionalization of 2-azaallyl radicals for aryl and alkyl methylamine synthesis. *M. Li, P.J. Walsh*

4:10 ORGN 54. Intramolecular cyclization of 3,3-diarylpropenylamides of electron-deficient alkenes: Stereoselective synthesis of functionalized hexahydrobenzo[*f*]isoindoles. *S. Yamazaki, H. Sugijura, A. Ogawa*

4:30 ORGN 55. 2-azaallyl anions as super-electron-donors: Transition-metal-free coupling with aryl and alkyl halides via radical intermediates. *Q. Wang, M. Poznik, M. Li, P.J. Walsh, J.J. Chruma*

SECTION B

*Boston Convention & Exhibition Center
Room 256*

Heterocycles & Aromatics

R. D. Broene, Organizer

G. D. Cuny, Presiding

1:10 ORGN 56. Iodocyclization of 2-(1-alkynyl)benzamides: Synthesis of cyclic imidates and isoindolinones. *S. Mehta, D. Brahmchari, M.R. Mangyan*

1:30 ORGN 57. Polythiophene-S,S-dioxide and other "impossible" oxygenated heterocycles. *S. Rozen, C. Aharon*

1:50 ORGN 58. Synthesis inspires design: The importance of synthetic innovations in drug discovery and development. *A. Sather*

2:10 ORGN 59. Intermolecular aryne ene reaction of Hantzsch esters: Stable covalent ene adducts from a 1,4-dihydropyridine reaction. *W. Sun*

2:30 ORGN 60. Towards the development of highly conjugated B-D systems for organic electronics. *A.E. Brown, M. Jeffries-El*

2:50 ORGN 61. Development of a new methodology for synthesis of 1,4-thiazepines. *M. Zora, Y. Kelgokmen*

3:10 ORGN 62. Synthesis of diverse semi-saturated bicyclic heteroaromatics. *H. Stewart, T. Moss, D.R. Spring*

3:30 ORGN 63. Synthetic enblement of lactam templates to drive SAR for an EP3 antagonist program. *D. Canterbury*

3:50 ORGN 64. BOIMPYs and oligomerized BODIPYs: Intramolecular J-aggregates and superfluorophores. *D. Werz*

4:10 ORGN 65. Investigation of the properties of selected lignans and lignins. *S. Rendon, R. Leino*

4:30 ORGN 66. Novel, facile synthetic route to N,N,O,C-boron chelated dipyrromethenes. *R.G. Clarke, M. Hall*

4:50 ORGN 67. Synthesis of 5,5-disubstituted oxazolidine-2,4-diones utilizing an oxidative cyclization reaction. *A. Duddupudi, H. Vo, G.D. Cuny*

SECTION C

*Boston Convention & Exhibition Center
Room 254A*

Photoredox Chemistry

R. D. Broene, Organizer

J. Cannon, Presiding

1:20 ORGN 68. Ultrafast C-H bond activation by an artificial photoenzyme via PCET. *A. Das, I. Mandal, R. Venkatramani, J. Dasgupta*

1:45 ORGN 69. Visible light-mediated preparation of 1-aminonorbornanes: Efficient access to an unexplored, saturated carbocycle. *T.M. Sodano, D. Staveness, C. Stephenson*

2:10 ORGN 70. Photocatalytic alkylation of aliphatic iminium ions for the synthesis of tertiary alkylamines. *D. Reich, A.D. Trowbridge, M. Gaunt*

2:35 ORGN 71. Alkylation of heterocycles through the reductive decarboxylation of *in situ* generated *N*-cycloxy pyridinium salts. *E.J. McClain, C. Stephenson, A. Sun*

3:00 Intermission.

3:10 ORGN 72. Generation and capture of α -carbonyl radicals using organic photoredox catalysis. *J.B. McManus, N.P. Onuska, D.A. Nicewicz*

3:35 ORGN 73. Dual Lewis acid/photoredox-catalyzed addition of ketyl radicals to vinyllogous carbonates in the synthesis of 2,6-dioxabicyclo[3.3.0]octan-3-ones. *J. Cannon*

4:00 ORGN 74. Strongly reducing, visible-light organic photoredox catalysts as sustainable alternatives to precious metals. *C. Lim, Y. Du, R.M. Pearson, S.M. Sartor, M.D. Ryan, H. Yang, N.H. Damrauer, G. Miyake*

4:25 ORGN 75. Sulfamate esters guide selective alkylation at traditionally non-reactive γ -C(sp³)-H bonds. *A. Gant Kanegusuku, T. Castanheira, J.L. Roizen*

SECTION D

*Boston Convention & Exhibition Center
Room 254B*

Green Chemistry Innovations as a Useful Tool in the Pharmaceutical Industry

D. Entwistle, I. Martinez, Organizers

J. C. Colberg, Presiding

1:20 Introductory Remarks.

1:35 ORGN 76. Insights into iron- and cobalt-catalyzed cross coupling. *P.J. Chirik*

2:15 ORGN 77. Iron-based catalysts for cross coupling reactions. *J.A. Byers, M.P. Crockett, C.C. Tyrol, A.S. Wang*

2:55 Intermission.

3:05 ORGN 78. Exploration of new reaction tools for rapid synthesis and late-stage functionalization of pharmaceutical interests. *C. Li*

3:45 ORGN 79. Better together: Improved cross-electrophile coupling reactions from industry collaboration. *D.J. Weix*

4:25 ORGN 80. Green chemistry innovations as a useful tool in the pharmaceutical industry discussion panel: Filling the gap between academia & pharma. *J.C. Colberg*

SECTION E

*Boston Convention & Exhibition Center
Room 253C*

Young Investigator Symposium

J. Aube, Organizer

A. K. Franz, Presiding

1:00 ORGN 81. Integration of discovery and process development to deliver a high complexity BACE inhibitor. *S.M. Mennen*

1:30 ORGN 82. Discovering innovative and impactful chemistry through external collaborations. *M. Luzung*

2:00 ORGN 83. Synthesis and bioactivity of carbohydrate-based macrocyclic picolinamide fungicides. *K. Bravo, F. Li, R. Heemstra, K.G. Meyer, P. Graupner, C. Yao*

2:30 ORGN 84. Herbicidal 2-aryl-1,2,3-triazoles. *M.J. Campbell*

3:00 ORGN 85. Vignettes in process chemistry spanning enabling discovery chemistry to manufacturing route development. *J. McCabe Dunn*

3:30 ORGN 86. Discovery of a novel class of TRPV4 antagonists and optimization with respect to LLE, oral PK properties and off-target activity. *J.E. Pero*

4:00 ORGN 87. Design, development and scale-up of a homogeneous Chan-Lam coupling. *A.C. Brewer*

4:30 ORGN 88. Speed to clinic: The critical role of organic synthesis in medicinal chemistry. *A.C. Smith*

SECTION F

*Boston Convention & Exhibition Center
Room 253 A/B*

JOC-OL Lectureship

T. Hanna, Organizer

S. J. Miller, A. B. Smith, Presiding

1:20 Introductory Remarks.

1:25 ORGN 89. Iterative design of a biomimetic catalyst for peptide synthesis. *H. Handoko, S. Sakilam, P. Arora*

1:55 ORGN 90. Single-molecule imaging in organic and organometallic systems. *S. Blum*

2:25 ORGN 91. Biomimetic natural product synthesis. *A. Lawrence*

2:55 ORGN 92. Unconventional building blocks for functional polymeric materials. *R.S. Klausen*

3:25 Organic Letters Award Presentation.

3:30 ORGN 93. Expanding the scope of photocatalytic synthesis. *T.P. Yoon*

4:15 Journal of Organic Chemistry Award Presentation.

4:20 ORGN 94. Total synthesis and biological evaluation of peptide natural products. *M. Inoue*

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Structures & Functions of Glycans

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Reporting & Reproducibility of Chemistry Research Data

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SUNDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Asymmetric Reactions & Syntheses

S. M. Silverman, Organizer

5:30 – 7:30

ORGN 95. Re-examination of the enantioselectivity in asymmetric organocatalyzed cycloadditions of anthrone. *J.L. Spencer-Briggs, S. Jones*

ORGN 96. Kinetic resolution of racemic 2*H*-azirine via an asymmetric imine amidation. *H. Hu, X. Liu, X. Feng*

ORGN 97. Asymmetric catalytic insertion of α -diazo carbonyl compounds into O–H bonds of carboxylic acids. *F. Tan, X. Liu, X. Feng*

ORGN 98. Synthesis of novel gold catalysts with bulky substituents. *R. Ma, B. Gung*

ORGN 99. Werner-type complexes as chirality and prochirality sensing agents for a variety of functional groups. *Q.H. Luu, J.A. Gladysz*

ORGN 100. Enantioselective Suzuki-Miyaura cross coupling of alkyl halides and unactivated boronic esters. *C.C. Tyrol, M.P. Crockett, J.A. Byers*

ORGN 101. Ru(II)-pheox catalyzed asymmetric B–H bond insertion reaction of diazoesters with amine-borane and phosphine-borane complexes. *N. Otag, S. Chanthamath, K. Shibatomi, S. Iwasa*

ORGN 102. Highly regio- and enantioselective γ -addition of allylzaarenes to enals. *M. Meazza, R. Rios-Torres*

ORGN 103. Convergent oligosaccharide synthesis. *A. Aljhdali, G.A. O'Doherty*

ORGN 104. Site- and enantioselective C–H oxygenation catalyzed by a chiral manganese porphyrin complex with a remote binding site. *F. Burg, T. Bach*

ORGN 105. Asymmetric aza-Prins reaction: Application to the total synthesis of dendrobate alkaloid (+)-*epi*-241D, (-)-*solenopsin* A, (+)-*epi*-dihydropindine and swainsonine. *R. Mittapalli*

ORGN 106. Proline derived ligands for the titanium-catalyzed enantioselective synthesis of propargyl alcohols in presence of diethylzinc. *T. Hapatsha, S. Cartelli*

ORGN 107. Enantioselective nickel-catalyzed reductive dicarbonylation of olefins. *D. Anthony, T. Diaa*

ORGN 108. Asymmetric phase-transfer catalyzed reaction of prenylated gramine salt: Synthesis of tyrostatin B. *M.M. Rahaman, M. Huisman, M. Hossain*

ORGN 109. Anion binding catalyst selectivity. *J. Attard, K. Osawa, Y. Guan, A.E. Mattson*

ORGN 110. Enantioselective synthesis of spirocycles through a chiral phosphoric acid catalyzed desymmetrization. *E. Minerali, A. Kelley, K.J. Stingley, J. Wilent, N. Chambers, G. Wilson, K.S. Petersen*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

CH Activation

S. M. Silverman, Organizer

5:30 – 7:30

ORGN 111. Ligand-controlled regiodivergent C–H alkenylation of pyrazoles. *H. Kim, J. Jang, J. Joo*

ORGN 112. Divergent C–H functionalization of nitropyrazoles with terminal alkynes through alkylation and hydroarylation. *C. Shin, J. Jang, J. Joo*

ORGN 113. Rh(III)-catalyzed C–H activation by allyl-to-allyl 1,4-migration. *R. Di Sanza, S.E. Korkis, H.W. Lam*

ORGN 114. Palladium nanoparticles catalyzed C–C, C–N and C–O bond formation via C–H activation. *R. Saha, G. Sekar*

ORGN 115. Mechanistic exploration of the regioselective activation of the sp^3 C–H bond in toluene and other alkyl arenes. *A. Amadeo, C.E. Hendrick, P. Nahide, G. Hong, K.F. VanGelder, U. Kumar, M. Kozlowski*

ORGN 116. Cp^{*}Rh^{III}-catalyzed chelation assisted directed amidation of aldehydes using anthranils. *S. Debbarma*

ORGN 117. Rh(III)-catalyzed C–H bond additions to nitroalkenes and application to the total synthesis of (+)-pancratistatin. *T. Potter, D.N. Kamber, B.Q. Mercado, J.A. Ellman*

ORGN 118. Pd(OAc)₂ catalyzed ortho directed C–H activation of aryloxy carbamates. *N. Truchan, T. Bach*

ORGN 119. Transient ligand enabled ortho-arylation of five-membered heterocyclic carbonyl compounds: Facile build-up of mechanochromic materials. *B. Li, H. Ge*

ORGN 120. Palladium(II)-catalyzed H/D exchange reactions of alicyclic amines. *E.Y. Aguilera, M.S. Sanford*

ORGN 121. Tunable silver-catalyzed nitrene transfer. *M. Huang*

ORGN 122. C–H amination via N–O activation. *L.E. Seveney, A.A. Oppong, B.L. DeBoef*

ORGN 123. Achieving regio- and enantioselective Pd-catalyzed C–H functionalization through new ligand design. *P. Shen, J. Yu*

ORGN 124. Investigating naphtho[1,2-*b*:5,6-*b'*]difuran (NDF) as an electron rich co-monomer in donor-acceptor conjugated polymer systems utilizing C–H activation polymerization. *E. Muller, M. Jeffries-El*

ORGN 125. Improved methods for ortho selective iridium catalyzed C–H borylations of anilines. *J.R. Montero, S. Lee, B. Ghaffari, M.R. Smith, R.E. Maleczka*

ORGN 126. Hydrazone derived iridium catalysts for regioselective C–H borylations between sterically similar sites. *J.E. Dannatt, S.L. Miller, B. Ghaffari, M.R. Smith, R.E. Maleczka*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Metal-Mediated Reactions & Syntheses

S. M. Silverman, Organizer

5:30 – 7:30

ORGN 127. Nickel-catalyzed decarboxylative C₁₀–C₁₀² reductive couplings under electrochemical conditions in batch and continuous flow. *H. Li, C. Breen, H. Seo, T.F. Jamison, Y. Fang, M.M. Bio*

ORGN 128. Ruthenium catalyzed decarboxylative synthesis of alkyl arenes. *K. Suppan*

ORGN 129. Novel method development for the synthesis of oxazoline and thiazoline. *H. Jeon, D. Kim, W. Lee, K. Hong, J. Lee*

ORGN 130. Mo^V reagents as powerful tools for oxidative coupling reactions. *P. Franzmann, S.B. Beil, S.R. Waldvogel*

ORGN 131. Ligand-controlled copper-catalyzed regioselective hydroborylation and borylstannylation of allensulfonamides. *H. Lee, J. Park*

ORGN 132. Comparative study of solid state and solution aldol reaction of lithium enolate of pinacolone. *H. Pang, P.G. Williard*

ORGN 133. One-pot palladium-catalyzed synthesis of sulfonyl fluorides from aryl bromides. *A. Davies, J. Curto, S.W. Bagley, M.C. Willis*

ORGN 134. Process development of a Buchwald-Hartwig amination. *Y. Lu, T.D. White, J.R. Martinelli*

ORGN 135. Aryl group introduction on Monocarbocloso-dodecaborate for unique functions and properties. *R. Takita, G. Akimoto, M. Otsuka, Y. Kitazawa, J. Kanazawa, M. Uchiyama*

ORGN 136. Development of a new environmentally benign deprotection method using Pd/C–AlH₃O. *N. Zorigt, C. Schaefer, A. Kokek, H. Cho, B. Torok*

ORGN 137. Bidentate N-heterocyclic carbene nickel(II) catalysts for acrylate synthesis from ethylene and CO₂. *J. Kim, H. Hahn, J. Ryu, J. Lee, S. Hong*

ORGN 138. Imidazo[1,5-*a*]pyridin-3-ylidene ruthenium catalysts for olefin metathesis. *S. Yun, S. Park, J. Ryu, J. Lee, S. Hong*

ORGN 139. Bifunctional N-heterocyclic carbene ligands for Cu-catalyzed direct C–H carboxylation with CO₂. *D. Park, J. Ryu, J. Lee, S. Hong*

ORGN 140. Synthesis and applications of noncovalent organic frameworks. *T. Lieu, O. Miljanic, O. Daugulis*

ORGN 141. Rhodium-catalyzed tandem addition-cyclization-rearrangement of alkylnylhydrazones with organoboronic acids. *K. Choi, H. Park, C. Lee*

ORGN 142. High-throughput profiling of common salen/an transition metal catalysts in oxidative phenol homocoupling: Insights into reactivity and mechanism. *A. Jamison, C. Ochoa, M. Kozlowski*

ORGN 143. N-pyridyl urea derivatives as a ligand for copper-catalyzed aryl coupling reactions. *F. Damkaci, O. Alotaibi, J. McGrath, G. Kerr, F. Papa*

ORGN 144. Mn-Terpyridine catalyzed dehydrogenative acceptorless coupling of amines and alcohols to give aldimine. *G. Barrera, B. Calalpa*

ORGN 145. Development of nickel-catalyzed asymmetric reductive cross-couplings. *J. Hofstra*

ORGN 146. Metal-mediated catalysts for bioorthogonal therapeutics. *R. Huang, R. Cao-Milán, V.M. Rotello*

ORGN 147. Modification of Mori-Tamaru reaction for phosphonodiene substrates. *R.R. Paudel, J.N. Ridenour, C.D. Spilling*

ORGN 148. De novo synthesis of phostones and phosphono sugars. *G.R. Gnawali, C.D. Spilling*

ORGN 149. Lithium hexamethyldisilazide-mediated enolization of highly substituted aryl ketones: Structural and mechanistic basis of the E/Z selectivities. *K. Mack, A. McClory, H. Zhang, F. Gosselin, D.B. Collum*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Peptides, Proteins & Amino Acids

S. M. Silverman, Organizer

5:30 – 7:30

ORGN 150. Total synthesis of the piperazine acid (Piz) containing natural product L-156,373. *Y.M. Elbatrawi, C. Kang, J.R. Del Valle*

ORGN 151. Conformational analysis of peptides having 1-aminocyclopentanecarboxylic acids with stapled side chain and their applications to organocatalysts. *A. Ueda, M. Higuchi, S. Matsumoto, M. Doi, M. Tanaka*

ORGN 152. Aggregation mechanism analysis of amyloid β fragment utilizing alkene-type peptide bond isomers. *Y. Kodama, T. Imai, K. Sato, N. Mase, T. Narumi*

ORGN 153. Harnessing the reactivity of the MeDbz linker to access C-terminally modified peptides. *C.A. Arbour, R.E. Stamatini, J.L. Stockdill*

ORGN 154. Facile conversion of peptide hydrazide to peptide thioester without decomposition of N-terminal Thz moiety. *K. Sato, S. Tanaka, Y. Tashiro, T. Narumi, N. Mase*

ORGN 155. Foldable prolinomycin-based scaffold: From structure to function. *W. Wang*

ORGN 156. Total synthesis of plusbacin A₃. *A. Katsuyama, F. Yakushiji, S. Ichikawa*

ORGN 157. Using mercaptoproline-stapling to improve the biological activity, selectivity, and cell permeability of constrained peptides. *J.R. Pace, J. Kritzer*

ORGN 158. Synthesis and reactivity of cysteinyl perfluoroaryl and heteroaryl thioethers. *T. Bednar, J. Gavenonis*

ORGN 159. Design and synthesis of collagen mimetic peptides incorporating δ -azaproline residues. *Y.M. Elbatrawi, J.R. Del Valle*

ORGN 160. RiPP leader peptide cleavage by a lanthipeptide protease. *S.C. Bobeica, S. Dong, L. Huo, S.K. Nair, W.A. van der Donk*

ORGN 161. Synthesis of collagen mimetic incorporated β -amino acid. *A. Shimoda, M. Ito, H. Uemura, T. Sugiyama, A. Kittaka, Y. Suhara*

ORGN 162. Developing phosphotyrosine-mimicking peptides for the inhibition of the STAT3 SH2 domain. *R.A. Cerulli, J. Kritzer*

ORGN 163. Chloroalkane penetration assay (CAPA) to monitor the cellular penetration of biomolecules. *K. Deprey, L. Peraro, J. Kritzer*

ORGN 164. Structural validation of predicted cyclic heptapeptides in aqueous solution. *A. Cummings, S. McHugh, D. Slough, Y. Lin, J. Kritzer*

ORGN 165. Using CAPA to screen bioactive peptide libraries. *K. Mientkiewicz, L. Peraro, J. Kritzer*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Photoredox Chemistry

S. M. Silverman, Organizer

5:30 – 7:30

ORGN 166. Tuning reactivity of europium(II)-containing visible-light photocatalysts. *R. Barraza, M.J. Allen*

ORGN 167. Photoredox generated carbonyl ylides: Scope, mechanism, and application. *E. Alfonso, A.B. Beeler*

ORGN

- ORGN 168.** Photocatalytic and redox properties of a novel macrocyclic nickel complex. *M. Grübel, I. Bosque, C. Hess, T. Bach*
- ORGN 169.** Aromatic carboxylic acids as acyl radical precursors for the photocatalyzed difunctionalization of olefins. *G. Bergonzini, C. Cassani, F. Pettersson, C. Wallentin*
- ORGN 170.** Application and study of a new Ni-based photocatalyst. *I. Bosque Martínez, M. Grübel, T. Bach, C. Hess*
- ORGN 171.** Visible-light-mediated carbon-sulfur bond formation through organic photoredox catalysis. *G. Zhao, S. Kaur, E. Busch, T. Wang*
- ORGN 172.** Visible light activated highly diastereoselective glycosylation. *F. Yu*
- ORGN 173.** Development of a photoreactor enabling screening of photoredox catalysis with temperature and light control: Experiments in batch and flow. *R.S. Buzdygon, D. Drukker, J. Riccio, M. Bazin*
- ORGN 174.** Functionalization of nucleosides via photoredox and nickel-mediated sp^2 - sp^3 cross-coupling to enable rapid exploration of chemical space. *A. El Marrouni, V.W. Shurtleff, J. Perkins, M. VanHeyst, M. Lu*
- ORGN 175.** Visible light photocatalytic methods for the [2 + 2] cycloaddition of dioxenone and oxazinone chromophores. *A. Waters, L. Burke, E.C. McLaughlin*

MONDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 255

New Reactions & Methodology

R. D. Broene, *Organizer*
J. D. Chisholm, *Presiding*

- 8:10 ORGN 176.** Sequential photochemical transformations: Selective, efficient [4+4] and di- π -methane rearrangements. *B.P. Derstine, S.M. Sieburth*
- 8:30 ORGN 177.** Stereoselective synthesis of 2-deoxyglycosides from glycals via visible-light-induced photoacid catalysis. *G. Zhao, T. Wang*
- 8:50 ORGN 178.** Visible-light-driven alkene cyclopropanations with electrophilic radical carbenoids. *A. Garcia Herraiz, M. Garcia Suero*
- 9:10 ORGN 179.** Visible light induced intermolecular [2+2] photocycloaddition of β -nitrostyrenes. *L. Mohr, T. Bach*
- 9:30 ORGN 180.** Metal-free reductive coupling of aliphatic carbonyls with styrenes via photoredox catalysis in continuous flow. *H. Seo, T.F. Jamison*
- 9:50 ORGN 181.** Biopharmaceutical analysis in flow: The development of a fast and robust methodology. *T. Bihari, G. Sipos, A. Guttman, F. Darvas*
- 10:10 ORGN 182.** Addition of carbon nucleophiles to trichloroacetimidates to access 1,1'-diaryllalkyl systems. *J.D. Chisholm, N.S. Mahajani*
- 10:30 ORGN 183.** Alkylation of ketones with propargyl carboxylates promoted by trimethylsilyl trifluoromethanesulfonate. *C.W. Downey*
- 10:50 ORGN 184.** Operationally-simple two-step procedure for the overall transamidation of 8-aminoquinoline amides proceeding via the intermediate *N*-acyl-Boc-carbamates. *O. Verho, M. Pourghasemi-Lati, M. Oschmann*
- 11:10 ORGN 185.** Regioselective acid-catalyzed cyclization of *cis*-methindolylstyrenes affords tetrahydrobenzo[*cd*]indoles. *X. Cai, T. Anagu, C. Ramirez, H. Harb, H.P. Hrachian, B.J. Stokes*
- 11:30 ORGN 186.** Regioselective nucleophilic substitution of the Baylis-Hillman adducts and synthesis of tri- and tetracyclic azepero-indole derivatives. *Z. Shafiq, L. Liu*

SECTION B

Boston Convention & Exhibition Center
Room 256

Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species

R. D. Broene, *Organizer*
A. Grinberg Dana, *Presiding*

- 8:20 ORGN 187.** Dynamics simulations of reactive intermediates: From cryogenic matrices to co-solvents. *J. Mieres-Perez, P. Sokkar, J. Tatchen, E. Sanchez-Garcia*
- 8:40 ORGN 188.** Proton shuttles dictate the stability of anomalous carbocations: Case study of small and medium sized carbocations using *ab initio* dynamics. *S.S. Jyengar*
- 9:00 ORGN 189.** Sulfur reactivity and mesomerism in automated kinetic model generation. *A. Grinberg Dana, R. Gillis, Y. Li, W.H. Green*

- 9:20 ORGN 190.** Trifluoromethyl anion (CF $_3^-$): What we do and do not know. *F. Wang, Z. Zhang, R.M. Haiges, M. Rahm, K.O. Christe, T. Mathew, S.G. Prakash*
- 9:40 ORGN 191.** Ligand coupling at phosphorus: Mechanism, selectivity and orbital symmetry. *J. Alegre Requena, R. Paton*
- 10:00** Intermission.
- 10:10 ORGN 192.** Perspectives in computational study of reaction mechanisms: How predictive can we be? *J.N. Harvey*
- 10:30 ORGN 193.** Statistical analysis of semiclassical dispersion corrections. *T. Weymuth, J. Proppé, M. Reiher*
- 10:50 ORGN 194.** Bent bond and the antiperiplanar hypothesis: A novel approach in the comprehension of glycosides reactivity at the anomeric center. *J. Parent, X. Bertrand, P. Deslongchamps*
- 11:10 ORGN 195.** Taming peroxides with stereoelectronic effects: Stereoelectronic control in the ozone-free synthesis of ozonides. *G. Gomes, I. Alabugin*
- 11:30 ORGN 196.** Synthesis of a TEMPO radical containing polymer for a potential organic radical battery. *E. Yücel, P. Öztürk, A. Akdag*

SECTION C

Boston Convention & Exhibition Center
Room 254A

Biologically Related Molecules & Processes

R. D. Broene, *Organizer*
D. Bandyopadhyay, *Presiding*

- 8:00 ORGN 197.** Metabolic labeling with isoprenoid analogs yields insights into the enzymology of protein prenyltransferases. *M.D. Distefano, K.F. Suazo, M. Ahmadi*
- 8:20 ORGN 198.** Probing galactonoamide scaffolds toward potent glycosidase inhibition. *S. Striegler*
- 8:40 ORGN 199.** Synthesis of polysulfides for understanding the biogenesis of H $_2$ S. *L.I. Pilkington, B. Fedrizzi, D. Barker*
- 9:00 ORGN 200.** Very short and diverse synthesis of artificial macrocycles. *A. Doemling, E. Abdelaheem, M. Rudrakshula, M. Khalesi, C. Neochortis, P. Patil, S. Shaabani*
- 9:20 ORGN 201.** Design and synthesis of a natural product-like macrocycle library containing tetrahydropyran moieties. *H. Lee, J. Hong*
- 9:40** Intermission.
- 9:50 ORGN 202.** Diversity-oriented synthesis of flavonoid derivatives from chalcone and γ -pyrone precursors. *L.N. Aldrich*
- 10:10 ORGN 203.** Diversity-oriented synthesis and late stage functionalization: Exploiting complementary approaches in drug discovery. *E. Lenci, G. Menchi, D. Dixon, A. Trabocchi*
- 10:30 ORGN 204.** Small molecule microarray profiling reveals FDA approved drugs that bind to structured nucleic acids. *D. Calabrese, K. Zlotkowski, S. Alden, W.M. Hewitt, C. Connelly, R. Wilson, S. Gaikwad, L. Chen, R. Guha, C.J. Thomas, B. Mock, J. Schneekloth*
- 10:50 ORGN 205.** Chemistry of an amphibian disease: Fungal and bacterial small molecules involved in chytridiomycosis. *T.P. Umile*
- 11:10 ORGN 206.** Harnessing chemical and biochemical technologies in pharmaceutical synthesis. *K. Belecki*
- 11:30 ORGN 207.** Route development of synthetically challenging sulfonamide analogs of the MR modulator AZD9977. *Z. Yuan, K.L. Granberg, J. Lindberg, G. Nikitidis, D. Liu, M. Malmgren, P. Cornwall, A. Hogner, A. Nordqvist, B. Lindmark, K. Edman, K. Bamberg, J. Hartleib*

SECTION D

Boston Convention & Exhibition Center
Room 254B

M-CHEM: A Whole Lot of Shaking Going On

Cosponsored by ORGN
Financially supported by Form-Tech (Montreal, Canada)
T. P. Hanusa, J. Mack, *Organizers, Presiding*
T. Friscic, *Presiding*

- 7:40 ORGN 208.** Mechanochemical synthesis of unsymmetrically-substituted porphyrins. *T.D. Hamilton, J.V. Ruppel*
- 8:00 ORGN 209.** Simultaneous application of mechanochemical activation and enzymatic enantiodiscrimination in efficient kinetic resolution of β^3 -amino acids. *M. Pérez-Venegas, G. Reyes-Rangel, A. Neri, J. Escalante, E. Juaristi*
- 8:20 ORGN 210.** Overcoming solubility problems and discovering chemical reactivity by mechanochemistry. *J.G. Hernandez*

- 8:40 ORGN 211.** Enabling catalysis through mechanochemistry: From metal catalysis to metal recycling. *L. Do, T. Friscic*
- 9:00 ORGN 212.** Mechanochemical synthesis of main compound and complexes. *F. Garcia*
- 9:20 ORGN 213.** Mechanochemical mystery: Why 'non-stoichiometric' reactions in the solid state should be expected. *R.F. Koby, N.R. Rightmire, T.P. Hanusa*
- 9:40** Intermission.
- 9:50 ORGN 214.** From one jar/one compound syntheses to high-throughput 'parallel mechanochemistry'. *E. Colacino, A. Porcheddu, F. Delogu, S. Bysouth, K. Martina, G. Cravotto*
- 10:10 ORGN 215.** Real-time *in situ* investigations of mechanochemical reactions. *H. Kulla, I. Akhmetova, S. Haferkamp, F.L. Emmerling*
- 10:30 ORGN 216.** Temperature and frequency: Coarse and fine control of energy in lab-scale mechanochemistry. *J.M. Andersen, J. Mack*
- 10:50 ORGN 217.** Mechanochemical and aging-based synthesis of metal nanoparticles and functionalization of biopolymers. *A.H. Moores, T. Friscic, M. Rak, M. Malca, B. Fiss, T. Di Narzo*
- 11:10 ORGN 218.** Extrusion: An efficient technique for the manufacture of organic compounds and materials. *D.E. Crawford*

- 11:30 ORGN 219.** Kinetic analysis of mechanochemical and mechanocatalytic processes. *R.G. Blair*

- 11:50 ORGN 220.** Solvent-free mechanochemical synthesis - fundamentals, scale-up and commercialisation. *S. James*

SECTION E

Boston Convention & Exhibition Center
Room 253C

Role of Organic Chemistry in Early Clinical Drug Development

A. F. Abdel-Magid, R. Vaidyanathan, *Organizers*
J. A. Pesti, *Organizer, Presiding*

7:55 Introductory Remarks.

- 8:00 ORGN 221.** From rational design to large-scale synthesis: Evolution of a pan-genotype HCV inhibitor bearing an oxaboryl heterocycle, part 1. *A.J. Peat*
- 8:35 ORGN 222.** From rational design to large-scale synthesis: Evolution of a pan-genotype HCV inhibitor bearing an oxaboryl heterocycle, part 2. *S. Xie*
- 9:15 ORGN 223.** Synthetic routes to Venetoclax at different stages: From discovery to early development to commercialization (part 1). *M.D. Wendt*
- 9:55 ORGN 224.** Synthetic routes to Venetoclax at different stages: From discovery to early development to commercialization (part 2). *Y. Ku*
- 10:35 ORGN 225.** Arming an anti-*Staph. aureus* THIOMAB antibody conjugate (TAC) with medicinal chemistry. *T. Pillow*
- 11:15 ORGN 226.** Arming an anti-*Staph. aureus* THIOMAB antibody conjugate (TAC) with process chemistry. *S.G. Koenig*

11:55 Concluding Remarks.

SECTION F

Boston Convention & Exhibition Center
Room 253 A/B

Organometallics Distinguished Author Award

P. J. Chirik, *Organizer, Presiding*

8:30 Introductory Remarks.

- 8:35 ORGN 227.** Radical-relay strategies for selective C-H oxidation. *S.S. Stahl*
- 9:10 ORGN 228.** Carbonyl-olefin metathesis and oxygen atom transfer. *C. Schindler*
- 9:45** Intermission.
- 10:00 ORGN 229.** New tools for catalysis. *T. Rovis*
- 10:35 ORGN 230.** Mechanism of nickel-catalyzed reactions. *T. Diau*

Structures & Functions of Glycans

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M-CHEM: A Whole Lot of Shaking Going On

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MONDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 255

New Reactions & Methodology

R. D. Broene, *Organizer*

T. G. Minehan, *Presiding*

1:20 ORGN 231. Unprecedented Claisen rearrangement reaction under normal physiological conditions. **B. Zhu**

1:40 ORGN 232. Ring expansion, ring contraction, and annulation reactions of allylic phosphonates under oxidative cleavage/basic conditions: Application to the total synthesis of naturally occurring sesquiterpenes. **T.G. Minehan**

2:00 ORGN 233. 4- π photocyclisation: A new route to functionalized 1,2-diazetidines. **T. Britten, P. Kemmitt, S. Coote**

2:20 ORGN 234. Exploring the Wagner-Jauregg reaction. **S.S. Tartakoff**

2:40 ORGN 235. Harnessing the reactivity of strained allene intermediates. **J. Barber, N.K. Garg**

3:00 ORGN 236. Simplifying terpenoid synthesis: Development and application of the reductive Cope rearrangement. **P. Vertesaljai, A.J. Grenning**

3:20 ORGN 237. Donor-acceptor cyclopropanes: Spring-loaded units to access carbo- and heterocyclic compounds. **D. Werz**

3:40 ORGN 238. Convergent Diels-Alder strategy for the synthesis of highly substituted pyridines. **S.G. Bartko, P.J. Hamzik, R.L. Danheiser, L. Espindola**

4:00 ORGN 239. Efficient use of lower ester compounds: Catalytic transesterification and cycloaddition. **D. Nakatake, Y. Matsumoto, R. Yazaki, T. Ohshima**

SECTION B

Boston Convention & Exhibition Center
Room 256

Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species

R. D. Broene, *Organizer*

M. Hall, *Presiding*

1:30 ORGN 240. Non-statistical dynamics and aromaticity as the reaction driving force on the mechanism of the Zimmerman Di- π -methane rearrangement. **R.A. Matute**

1:50 ORGN 241. Reaction of carbenes with Lewis acids: Isolation and spectroscopic characterization of antiaromatic molecules. **P. Costa, I. Trosien, J. Mieres-Perez, W.W. Sander**

2:10 ORGN 242. Towards the computational design of highly fluorescent rhodopsins. **A. Valentini, M. Marin, Y. Orozco, M. Riccardi, M. Olivucci**

2:30 ORGN 243. Rational design of near-infrared absorbing Di- π -A organic dye molecules. **A. Narsaria, J. Poater, A. Ehlers, C. Guerra, K. Lammertsma, F. Bickelhaupt**

2:50 ORGN 244. Synthesis and circularly polarized luminescence of chiral boron-chelated dipyrromethene fluorophores. **M. Hall**

3:10 Intermission.

3:20 ORGN 245. Role of the rich athermal ground-state chemistry in the photochemistry of the thioformaldehyde S-oxide sulfine. **B. Mignolet, B. Curchod, T.J. Martinez**

3:40 ORGN 246. Photochemistry of polyazido-aromatic compounds. **J.T. Bingham, B.D. Etz, S. Vyas**

4:00 ORGN 247. Optimizing 1,3-dipolar cycloadditions of diazoacetamides for chemical ligation. **B. Gold, M.R. Aronoff, E.G. Burke, T.T. Hoang, J.M. Schomaker, R.T. Raines**

4:20 ORGN 248. Halogen bonding in single electron transfer. **R. Baxter**

SECTION C

Boston Convention & Exhibition Center
Room 254A

Biologically Related Molecules & Processes

R. D. Broene, *Organizer*

A. W. Jensen, *Presiding*

1:10 ORGN 249. Ene reactions catalyzed by enzymes. **A.W. Jensen**

1:30 ORGN 250. Modulating the activity of trimethylamine lyase CutC/D, a gut microbial enzyme. **A. Duzan**

1:50 ORGN 251. Alkynyl bisubstrate inhibitors of nicotinamide N-methyltransferase (NNMT). **R. Polcarpo, L. Decultot, B.A. Wright, D. Huang, V. Chu, M. Shair**

2:10 ORGN 252. Biocatalytic synthesis of unsymmetrical diketopiperazine dimers via enzymatic C-H functionalization. **V.V. Shende, Y. Khatri, P. Lindovska, S. Newmister, R. Hohlman, F. Yu, T. Doyon, M. Movassaghi, D.H. Sherman**

2:30 ORGN 253. Concise synthesis of branched fluorour tags for increased fluorour phase solubility. **M.A. Miller, E.M. Sletten**

2:50 ORGN 254. Fluorour heptamethine fluorophores for shortwave infrared imaging. **E.M. Sletten**

3:10 ORGN 255. Water soluble pillar[5]arenes as a potential ¹²⁹Xe MRI probe. **P.I. Fernando, B.L. DeBoef**

3:30 ORGN 256. Large Stokes shift fluorescent dyes based on 9-amino- and 9-phosphonylpyronin scaffolds and their use in bioimaging applications. **A.N. Butkevich, M.V. Sednev, G. Lukinavicius, H. Shojai, E. d'Este, V.N. Belov, S.W. Hell**

3:50 ORGN 257. Towards brighter bioluminescence: Synthesis and properties of rigid infra-luciferins. **A. Syed, J. Anderson**

4:10 ORGN 258. Engineering aminohexose-cytosine antibiotics as selective ribosomal P-site Inhibitors. **R. Looper, H. Kanna Reddy, C. Serano, D. Eiler, P.R. Sebahar, C.A. Testa, T. Haussener, B. Tresco**

4:30 ORGN 259. Rapid construction of complex cyclobutane compounds. **T.P. Yoon**

4:50 ORGN 260. Chemical probes put tyrosine phosphatase activity in the spotlight. **A.M. Barrios**

SECTION D

Boston Convention & Exhibition Center
Room 254B

Flow Chemistry & Continuous Processes

R. D. Broene, *Organizer*

S. M. Torres, *Presiding*

1:00 ORGN 261. Single-droplet flow chemistry platform for high-throughput studies of rhodium-catalyzed hydroformylation reactions. **C. Zhu, C.W. Coley, K. Raghuvanshi, M. Abolhasani**

1:20 ORGN 262. Multi-step continuous flow synthesis of diazepam. **V. Vu, K. Rucker, D. Stout, J. Lim, J.P. Malerich, N. Collins**

1:40 ORGN 263. Synthesis of 4-bromide-3-methyl anisole with a continuous flow reaction system. **K. Wang, P. Xie, L. Zhang, J. Deng, G. Luo**

2:00 ORGN 264. In-line sampling and analysis for flow continuous chemical manufacturing. **M.G. Organ**

2:20 ORGN 265. Utilization of reaction monitoring to enable continuous flow iodination of an unstable ArLi species. **A.L. Dunn, D. Leitch, M. Journet, P. Liu**

2:40 ORGN 266. Recycling strategies in continuous flow. **S. Newman**

3:00 ORGN 267. Flow synthesis of dolutegravir: Translating batch processes into flow. **R. Ziegler, B. Desai, J. Jee, T. Roper, T.F. Jamison**

3:20 ORGN 268. Tunable asymmetric photochemical induction using circularly polarized light – batch vs. flow. **A.C. Evans, C. Sanchez, S. Hoffman, N. Jones, L. Nahon**

3:40 ORGN 269. Formal [3+2] for the formation of aminonorbornane via photo-excitation of a redox auxiliary. **J.L. Collins, R. Mcatee, D. Staveness, C. Stephenson**

4:00 ORGN 270. UV-light mediated borocyclopropanation of styrenes using continuous flow technology. **M. Sayes, G. Benoit, A.B. Charette**

4:20 ORGN 271. Continuous flow preparation of non-stabilized diazoalkanes and application to the synthesis of polysubstituted cyclopropane derivatives. **P. Rullière, G. Benoit, E.M. Allouche, A.B. Charette**

4:40 ORGN 272. Synthesis and in-line processing of peroxide using flow chemistry. **S.M. Torres, L. Cummings, J. Daye, J.T. Haliburton, Z.S. Peacock, T. Robison**

SECTION E

Boston Convention & Exhibition Center
Room 253C

Role of Organic Chemistry in Early Clinical Drug Development

A. F. Abdel-Magid, J. A. Pesti, *Organizers*

R. Vaidyanathan, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 ORGN 273. Discovery of small molecule inhibitors of PCSK9. Part 1: Medicinal chemistry progression. **D.W. Piotrowski**

1:45 ORGN 274. Discovery of small molecule inhibitors of PCSK9. Part 2: Process development. **E. McInturff**

2:25 ORGN 275. Discovery of BAF312, a S1P receptor 1 and 5 modulator. **S. Pan**

3:05 ORGN 276. Development of BAF312 drug substance manufacturing process and analytical control strategy. **C. Koecher**

3:45 ORGN 277. Discovery and development of omecamtiv mecarbil – a novel cardiac myosin activator for the potential treatment of systolic heart failure. **B.P. Morgan, S. Walker**

4:25 ORGN 278. Discovery and development of omecamtiv mecarbil – a novel cardiac myosin activator for the potential treatment of systolic heart failure (part 2). **S. Walker, B.P. Morgan**

5:00 Concluding Remarks.

SECTION F

Boston Convention & Exhibition Center
Room 253 A/B

Tetrahedron Prize

Cosponsored by BIOL, CARB and MEDI

Financially supported by Elsevier
S. F. Martin, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 ORGN 279. Deciphering the human gut microbiota with chemistry. **E.P. Balskus**

1:55 ORGN 280. Synthesis of polymers with designed structures. **R.H. Grubbs**

2:45 ORGN 281. Conservation of coactivator engagement mechanism enables small-molecule allosteric modulator discovery. **A.K. Mapp**

3:35 Presentation of Tetrahedron Prize to Awardee.

3:45 ORGN 282. Carbohydrates as microbial IDs.

L.L. Kiessling

4:45 Concluding Remarks.

Structures & Functions of Glycans

Sponsored by CARB, Cosponsored by ANYL, BIOL, CELL, MEDI and ORGN

Publishing Chemical Data

Sponsored by CINF, Cosponsored by ETHX and ORGN

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

S. M. Silverman, *Organizer*

8:00 – 10:00

107-108, 110, 113, 115, 120-121, 123, 125-126, 133-134, 142, 145, 149, 154, 157, 163-165, 169, 172-174, 262. See previous listings.

387, 388, 399-401, 403, 407-408, 410, 413-414, 416, 419, 421, 426, 428, 436, 438-439, 443, 444, 450, 453-455, 567, 595-597, 606-607, 611-612, 620, 624, 632, 638-639, 641, 643, 646-647, 649, 652-653. See subsequent listings.

TUESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 255

New Reactions & Methodology

R. D. Broene, *Organizer*

M. J. Ardolino, *Presiding*

8:20 ORGN 283. Redox chain reactions involving quinones. **Z. Li**

8:40 ORGN 284. Interrupted carbonyl olefin metathesis reaction via oxygen atom transfer. **D.J. Nasrallah, J. Ludwig, R. Watson, J.B. Gianino, C. Schindler**

9:00 ORGN 285. Functionalized cyclopentadienes via catalytic oxygen-atom transfer. **C.C. McAtee, D.J. Nasrallah, D.C. Ellinwood, R. Mcatee, C. Schindler**

9:20 ORGN 286. Cyanide-mediated nitrile-to-nitrile cyclocondensation towards efficient synthesis of polysubstituted pyroles. **S. Sisodiya, M. Saini, Y.V. Shah, G. Kumar, D.P. Daniel, N. Hura, V. Chaudhary, S. Guchhait**

9:40 ORGN 287. Selective radical-mediated amino-functionalization of allylic alcohols. **S.C. Fosu, K.M. Nakafuku, D.A. Nagib**

10:00 ORGN 288. One-pot synthesis of BODIPY- dyes through aerobic oxidation of bulky dipyrromethanes. **F.Y. Saleh, C. Gianopoulos, M. Mason**

10:20 ORGN 289. Solid state reduction of carbonyl compounds. **A.Y. Li, A. Segalla, A.H. Moores, C. Li**

10:40 ORGN 290. Synthesis and cross-coupling of 1-halo-3-substituted bicyclo[1.1.1]pentanes: En route to 1,4-disubstituted phenyl bioisosteres. **D.F. Caputo, C. Arranz, A.F. Stepan, J. Mousseau, E. Anderson**

11:00 ORGN 291. Discovery of a novel alpha-arylation reaction and the importance of synthetic innovations in drug discovery and development. **M.J. Ardolino**

SECTION B

Boston Convention & Exhibition Center
Room 256

ORGN

Peptides, Proteins & Amino Acids

R. D. Broene, *Organizer*
J. Kritzer, *Presiding*

8:40 ORGN 292. β -peptidic foldamers with novel three-dimensional structures. *I. Wellhöfer, C.A. Olsen*

9:00 ORGN 293. Design, developments and preliminary circular dichroism spectroscopic investigations of α/β -ABpeptides: A class of β -peptides with backbone chirality. *G.A. Sable, H. Lim*

9:20 ORGN 294. Assembly of peptidomimetics by multicomponent reactions. *I. Jeric*

9:40 ORGN 295. Synthesis of peptid- and *N*-benzylamide-based blood-brain barrier shuttles. *A.J. Rice, B. Eden, W. Bowman, T. Lovett, E. Geissler, S.C. Young*

10:20 ORGN 296. Peptide based therapeutics for global non-communicable diseases. *K.M. Scinski, V. Montanari, V. Raman, M. Bienborn, K. Kumar*

10:40 ORGN 297. Synthesis of lipopeptide-based immunotherapeutics using a conjugatable immunoadjuvant and evaluation of immune responses. *A. Vartak, S.J. Sucheck, N. Nandedkar, M. Hossain, K.A. Wall, M. McInerney*

11:00 ORGN 298. Remodeling the hydrophobic face of CSP-1, a peptide autoinducer for quorum sensing in *Streptococcus pneumoniae*. *R.A. Hillman, E.K. Tiwold, B. Koirala, Y. Tal-Gan, M.A. Bertucci*

11:20 ORGN 299. Measuring cytosolic penetration using the chloroalkane penetration assay. *L. Peraro, K. Deprey, J. Kritzer*

SECTION C

*Boston Convention & Exhibition Center
Room 254A*

Asymmetric Reactions & Syntheses

R. D. Broene, *Organizer*
H. Nguyen, *Presiding*

8:00 ORGN 300. Relay-PHOS. Ligands with fluxional chirality in asymmetric palladium-catalyzed allylic alkylation. *R. So, M.P. Sibi*

8:20 ORGN 301. Asymmetric Diels-Alder reactions catalyzed by chiral *N,N'*-dioxide-metal complexes. *Y. Lu, X. Feng*

8:40 ORGN 302. Enantioselective transition metal catalysis using new modular chiral bisphosphine-ligands. *M. Reiher, H. Schmalz*

9:00 ORGN 303. Chiral nickel(II) complex catalyzed enantioselective Doyle-Kirmse reaction of α -diazo pyrazoleamides. *X. Lin, X. Liu, X. Feng*

9:40 ORGN 304. Asymmetric synthesis of *N*-Boc-(*R*)-sila-proline via Rh-catalyzed intramolecular hydrosilylation of dehydroalanine and continuous flow *N*-alkylation. *J.Y. Chung, M. Shevlin, A. Klapars, M. Journet*

10:00 ORGN 305. Regiodivergence in rhodium-catalyzed asymmetric hydroboration. *A.J. Bochat, V. Shoba, S. Chakrabarty, G. Hoang, R. Wickrama, H. Palencia, J.M. Takacs*

10:20 ORGN 306. Synergistic catalysis: Enantioselective functionalization of alkyl-azaarenes. *M. Meazza, R. Rios-Torres*

10:40 ORGN 307. New approaches for the preparation of elusive chiral synthons. *O. Pamiés, M. Biasca, M. Magre, P. Norrby, S. Woodward, P. Guiry, M. Diéguez*

11:00 ORGN 308. Enantioselective synthesis of cyclopropanes from unactivated alkenes. *M. Montesinos, M. Costantini, A. Mendoza*

11:20 ORGN 309. Catalytic asymmetric inverse-electron demand 1,3-dipolar cycloaddition of isoquinolinium methylides with enecarbamates by a chiral *N,N'*-dioxide/*Ag*(I) complex. *X. Yali, X. Feng*

11:40 ORGN 310. Scope and mechanism of iridium-catalyzed asymmetric fluorination and regioselective radiofluorination of allylic trichloroacetimidates. *H.M. Nguyen*

SECTION D

*Boston Convention & Exhibition Center
Room 254B*

Nanoscience, Nanotechnology & Beyond

R. D. Broene, *Organizer*
M. Yan, *Presiding*

8:30 ORGN 311. Towards the synthesis of a nanoswimmer. *S. Mena Hernandez, E.M. Perez*

9:00 ORGN 312. Container compounds, gearing systems, tweezers and other molecular devices: An introduction to technomimetics. *A.A. Gakh*

9:30 ORGN 313. Characterization of the secondary structure of gas phase artificial molecular machines with ion-mobility mass spectrometry and molecular modeling. *B. Mignolet, E. Hanazin, E.A. De Pauw, F. Remacle*

10:00 ORGN 314. Turning quantum atomics and machine learning into picotechnology. *P.J. MacDougall, K. Donthula*

10:30 ORGN 315. Antibiotic-decorated nanoparticles: Synthesis and antimicrobial activity. *M. Yan*

11:00 ORGN 316. Stimuli responsive bioorthogonal nanocatalysts using iron(II) porphyrin active sites. *R. Cao-Milan, L.D. He, L. Wang, L. Castellanos, R. Landis, X. Zhang, D. Luther, V.M. Rotello*

SECTION E

*Boston Convention & Exhibition Center
Room 253C*

Young Academic Investigator Symposium

H. M. Davies, L. McElwee-White, *Organizers, Presiding*
8:20 Introductory Remarks.

8:25 ORGN 317. Organocatalysis of site-selective C-H hydroxylation and amination reactions. *M.K. Hillinski*

8:50 ORGN 318. Standardizing complex terpenoid synthesis. *A.J. Grenning*

9:15 ORGN 319. Catalyst-controlled synthesis of stereochemically complex atropisomers. *C. Sparr*

9:40 ORGN 320. Enabling synthesis: Natural products and simple arenes. *D. Sarlah*

10:05 Intermission.

10:15 ORGN 321. Strategies for promoting nickel-catalyzed alkene functionalization. *T. Diaio*

10:40 ORGN 322. New frontiers in oxidative catalysis with early transition metals. *I. Tonks*

11:05 ORGN 323. Computational studies of functionalization of C-H, C-C bonds and olefins. *P. Liu*

11:30 ORGN 324. Cross-coupling of amides by *N*-C activation. *M. Szostak*

SECTION F

*Boston Convention & Exhibition Center
Room 253 A/B*

Cope Award Symposium

K. L. Lee, *Organizer*
J. Aubé, *Presiding*

8:00 Introductory Remarks.

8:10 ORGN 325. New transformations involving bond activation. *N. Chatani*

8:45 ORGN 326. Award Address (Arthur C. Cope Late Career Scholars Award sponsored by the Arthur C. Cope Fund). Discovery in catalysis. *F. Glorius*

9:20 ORGN 327. Award Address (Arthur C. Cope Mid Career Scholars Award sponsored by the Arthur C. Cope Fund). Stereoselective addition reactions to carbon electrophiles: Conformational analysis, stereoelectronic effects, and reactivity. *K.A. Woerpel*

9:55 Intermission.

10:10 ORGN 328. Award Address (Arthur C. Cope Mid Career Scholars Award sponsored by the Arthur C. Cope Fund). Synthesis of glycopolymers and mimetics for therapeutic protein delivery. *H.D. Maynard*

10:45 ORGN 329. Award Address (Arthur C. Cope Late Career Scholars Award sponsored by the Arthur C. Cope Fund). *De novo* protein design. *W.F. Degrado*

11:20 ORGN 330. From long-lived carbocations to "The Methanol Economy", a most rewarding journey. *S.G. Prakash*

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis

Flow Synthesis

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

Synthesis & Chemistry of Agrochemicals

ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&E^C and ORGN

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 255*

New Reactions & Methodology

R. D. Broene, *Organizer*
S. Zultanski, *Presiding*

1:40 ORGN 331. General approach for diversification and derivatization via intramolecular C-H dithiocarbamylation. *C.G. Na, E.J. Alexanian*

2:00 ORGN 332. Chemoselective functionalization of aromatic aldehyde via pyridinium-type salt intermediate. *T. Kawajiri, R. Ohta, H. Fujioka, H. Sajiki, Y. Sawama*

2:20 ORGN 333. New methionine-selective reactions for protein modification. *J. Nelson, M. Taylor, M. Garcia Suero, M. Gaunt*

2:40 ORGN 334. Stereoselective oxidative glycosylation of anomeric nucleophiles with alcohols and carboxylic acids. *T. Yang*

3:00 ORGN 335. C-C bond-forming macrocyclization using modular sulfonylhydrazone substrates. *W. Xu, L.E. Brown, J.A. Porco*

3:20 ORGN 336. Arynes as synthetic building blocks for stereodefined quaternary centers. *M. Giroud, N.K. Garg*

3:40 ORGN 337. 2-cyano-1,3-dienes by a deconjugative alkylation/Tsujii-Saegusa-Ito oxidation on Knoevenagel adducts: En route to tetrahydrobenzochromene scaffolds. *P.V. Navaratne, A.J. Grenning*

4:00 ORGN 338. Dehydrogenative anodic cross-coupling of aryls: Sustainable, disruptive and scalable. *S.R. Waldvogel*

SECTION B

*Boston Convention & Exhibition Center
Room 256*

Metal-Mediated Reactions & Syntheses

R. D. Broene, *Organizer*
G. Beutner, *Presiding*

1:20 ORGN 339. Nickel catalyzed synthesis of quinoxalinediones and benzoxazine imines. *G. Beutner, W.C. Wertjes, E. Simmons, D.S. Ayers*

1:40 ORGN 340. Nickel-catalyzed reductive cleavage of carbon-oxygen bonds in anisole derivatives using an aminoborane reagent. *T. Igarashi, N. Chatani, M. Tobisu*

2:00 ORGN 341. Nickel-catalyzed cross-electrophile coupling of aryl chlorides with alkyl chlorides. *S. Kim, D. Weix*

2:20 ORGN 342. Electronically mismatched cycloaddition reactions via single-electron-transfer of iron(III)-polypyridyl complex. *J. Shin, S. Eun Young, E. Kang*

2:40 ORGN 343. Access to enantioenriched bifunctional CIDA borocyclopropanes: A general solution to the dioxaborolane-mediated cyclopropanation of oxidation-prone and base-sensitive allylic alcohols. *S. Siddiqui, C. Navuluri, A.B. Charette*

3:00 ORGN 344. Advances in amine arylation using Pd catalysts and mechanistic investigations into the role of the base. *M.G. Organ*

3:20 Intermission.

3:30 ORGN 345. Avoiding migratory insertion in the coupling of secondary alkylzinc reagents. *M.G. Organ*

3:50 ORGN 346. Palladium-catalyzed carbocyclizations of unactivated alkyl bromides with alkenes involving auto-tandem catalysis. *A. Venning, M. Kwiatkowski, J.E. Roque Peña, B.C. Lainhart, A.A. Guruparan, E.J. Alexanian*

4:10 ORGN 347. Preparation of deuterium labeled compounds by Pd/C-Al₂O₃ facilitated selective H-D exchange reactions. *A. Kokek, B. Torok, D. Kadish*

4:50 ORGN 348. Regiodivergent and stereospecific Pd-catalyzed addition of alkynes to allenamides: Ligand-controlled hydro- and carbopalladation. *J. Park, T. Pradhan, H. Kim*

SECTION C

*Boston Convention & Exhibition Center
Room 254A*

Asymmetric Reactions & Syntheses

R. D. Broene, *Organizer*
A. Sather, *Presiding*

1:15 ORGN 349. Organocatalytic asymmetric cascade reaction of 2-hydroxyphenyl-substituted enones and isocyanates to construct 1,3-benzoxazin-2-ones. *S. Guo, X. Liu*

1:35 ORGN 350. Asymmetric construction of axially chiral compounds and applications. *B. Tan*

1:55 ORGN 351. Towards biphenyl based frustrated Lewis pairs: From mono-functionalized to ambiphilic compounds. *J. Bortoluzzi, F.R. Leroux, A. Panossian*

2:15 ORGN 352. Organocatalyzed asymmetric [4+2] cycloadditions: Constructing complex scaffolds by utilizing tropolones. *N. Hammer, K.A. Jorgensen*

2:35 ORGN 353. Directing the activation of donor-acceptor cyclopropanes towards stereoselective 1,3-dipolar cycloaddition reactions by Brønsted base catalysis. *J. Blom*

2:55 ORGN 354. Anion recognition and catalytic ability of select chiral silanediols, thioureas, and squaramides. *Y. Guan, J. Attard, K. Osawa, S. Kondo, A.E. Mattson*

3:15 ORGN 355. New chiral aziridinylphosphonic acids; synthesis and evaluation of their organocatalytic and biological activity. *O. Dogan*

3:35 ORGN 356. Development of new Lewis-acid catalyzed methods in organic synthesis. *P.S. Riehl, C. Schindler*

3:55 ORGN 357. Computation for synthesis: Hydrogen bonding promoted asymmetric nucleophilic fluorination. *D. Ascough, V. Gouverneur, R. Paton*

4:15 ORGN 358. Hydrogen bonding mediated asymmetric nucleophilic fluorination. *F. Ibbá, G. Pupo, A. Vicini, V. Gouverneur*

4:35 ORGN 359. Diastereocontrolled deboronation of β -sulfonimido bis(boronates): A general stereoselective method to access α,β -disubstituted β -amino alkylboronates. *X. Li, D.G. Hall*

4:55 ORGN 360. Catalytic asymmetric haloazidation and haloetherification of α,β -unsaturated ketones. *P. Zhou, X. Liu, X. Feng*

SECTION D

*Boston Convention & Exhibition Center
Room 254B*

Peptides, Proteins & Amino Acids

R. D. Broene, *Organizer*
R. Scheck, *Presiding*

1:20 ORGN 361. Uncovering features that control selective protein glycation. *R. Scheck*

1:40 ORGN 362. Structure-activity relationships of the S-linked glycocon sublanicin. *S. Biswas, W.A. Van Der Donk*

2:00 ORGN 363. Affinity-based probes to investigate posttranslational modifications. *M. Bæk, C.A. Olsen*

2:20 Intermission.

2:30 ORGN 364. Teaching an old dog a new trick: Oxime resin as versatile solid-support towards various cyclic peptides scaffolds. *C. Berube, A. Borgia, N. Voyer*

2:50 ORGN 365. Iminoboronate and imidazolidino boronate mediated peptide cyclization. *K. Li, J. Gao*

3:10 ORGN 366. Peptides as green epoxidation catalysts: A comparative study of cyclic and linear structures. *C. Berube, X. Barbeau, P. Lagüe, N. Voyer*

3:30 ORGN 367. Synthesis of novel brominated and chlorinated vinylic fatty acids as effective inhibitors of the *Leishmania* topoisomerase IB enzyme. *N.M. Carballeira, D. Alequin-Torres, L. Lotti Diaz, R. Reguera, Y. Pérez-Pertejo, R. Carbajo, R. Balana-Fouce*

SECTION E

*Boston Convention & Exhibition Center
Room 253C*

Young Academic Investigator Symposium

H. M. Davies, L. McElwee-White, *Organizers, Presiding*

1:20 ORGN 368. Regio- and stereocontrol with anions and radicals. *J.T. Mohr*

1:45 ORGN 369. Acyl radical chemistry: In the age of photoredox catalysis. *C. Wallentin*

2:10 ORGN 370. Spirocyclic iodonium ylide (SCIDY) mediated ^{18}F -fluorination: A general method for the preparation of PET radiopharmaceuticals. *S.H. Liang*

2:35 ORGN 371. Catalytic activation of esters: A high-throughput approach to reaction discovery. *S. Newman*

3:00 Intermission.

3:10 ORGN 372. Controlled cationic polymerizations regulated by light. *B.P. Fors*

3:35 ORGN 373. Human milk glycome as a defense against pathogens. *S.D. Townsend*

4:00 ORGN 374. Synthesis and study of noncanonical membrane lipids. *N.Z. Burns*

4:25 ORGN 375. Spontaneous behaviors and bond strains affect marriages (with your microbiome). *H. Park, T. Goddard, J. Oh, C. Perez, B.Q. Mercado, J. Crawford*

4:50 Concluding Remarks.

SECTION F

*Boston Convention & Exhibition Center
Room 253 A/B*

Cope Award Symposium

K. L. Lee, *Organizer, Presiding*

1:20 Introductory Remarks.

1:30 ORGN 376. Award Address (Arthur C. Cope Late Career Scholars Award sponsored by the Arthur C. Cope Fund). Recent progress in natural product synthesis and Cu-catalyzed coupling reactions. *D. Ma*

2:05 ORGN 377. Award Address (Arthur C. Cope Early Career Scholars Award sponsored by the Arthur C. Cope Fund). Proton-coupled electron transfer in organic synthesis. *R.R. Knowles*

2:40 Intermission.

2:50 ORGN 378. Award Address (Arthur C. Cope Mid Career Scholars Award sponsored by the Arthur C. Cope Fund). Enantioselective catalysis with organoboron reagents. *J.P. Morken*

3:25 ORGN 379. Award Address (Arthur C. Cope Early Career Scholars Award sponsored by the Arthur C. Cope Fund). Chemical discovery in the microbial world. *E.P. Balskus*

4:00 Introduction of Awardee.

4:10 ORGN 380. Award Address (Arthur C. Cope Award sponsored by the Arthur C. Cope Fund). Natural product synthesis as an inspiration for discovery. *S.V. Ley*

Synthesis & Chemistry of Agrochemicals

Kenneth A. Spencer Award: Symposium in Honor of Thomas M. Stevenson

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC² and ORGN

DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis

Reaction Planning & Screening

Sponsored by COMSCI, Cosponsored by ANYL, COMP, MEDI and ORGN

TUESDAY EVENING

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Biologically Related Molecules & Processes

S. M. Silverman, *Organizer*

5:30 – 7:30

ORGN 381. Chemoenzymatic, stereodivergent total synthesis of azaphilone natural products. *J. Pyser, S.B. Dockrey, A.R. Narayan*

ORGN 382. Biocatalytic biaryl bond formation. *S.P. Kelly, M.E. Hinze, J. Yazarians, A.R. Narayan*

ORGN 383. Biocatalytic benzyllic C-H hydroxylation. *J. Perkins, T. Doyon, S.B. Dockrey, K. Skinner, A.R. Narayan*

ORGN 384. Biocatalytic biaryl bond formation. *J.A. Yazarians, M.E. Hinze, A.R. Narayan*

ORGN 385. Synthesis of bulky galactonoamides for the inhibition of galactosidases. *I. Orizu, S. Striegler*

ORGN 386. Optimization of carbon-13 labeling strategies for new biocatalysis discovery. *J. Marin, J. Ludwig*

ORGN 387. New bifunctional reagents for bioorthogonal conjugations. *H. Gu, T. Chio, K. Mukherjee, S.L. Bane*

ORGN 388. Synthesis of reduced flavone analogues from γ -pyrones. *E.M. Gerlach, M.A. Korkmaz, Q. Gao, L.N. Aldrich*

ORGN 389. Microwave-assisted, asymmetric synthesis of flavonoid derivatives from chalcones. *L.L. Xu, T.R. Helgren, D. Sotelo, Y.R. Mehta, M.A. Korkmaz, I. Pavlinov, V.P. Parise, L.N. Aldrich*

ORGN 390. Fluorinated analogue of the ganglioside GM₄ and its application in oligodendrocyte upregulation. *T.J. Kieser, N. Santschi, L. Nowack, G. Kehr, T. Kuhlmann, S. Albrecht, R. Gilmour*

ORGN 391. Antiproliferative and apoptosis-induction studies of 1,4-dihydropyridine derivatives in human lung cancer cells A549. *H.M. Patel, M.G. Sharma, M.M. Vala, M.M. Patel, A.C. Dhanasekaran*

ORGN 392. Synthesis of DNA binding profile of crystal violet derivatives. *O. Nunez, T.G. Minehan*

ORGN 393. Antiangiogenic activity and chemical derivatization of the neurotoxic acetogenin, annonacin isolated from *Asimina triloba*. *F.A. Luzzio, P. Monsen*

ORGN 394. Synthesis of novel fluorescent probes to elucidate vitamin K binding protein. *Y. Ito, Y. Hirota, K. Nakagawa, Y. Suhara*

ORGN 395. Unveiling the conformational preferences of fructose transporters. *V. Begoyan, L. Weselinski, M. Tanasova*

ORGN 396. Detection and identification of bioactive small molecules produced by the fungal pathogen *Batrachochytrium dendrobatidis*. *M.H. Kehs, B.M. Gillard, L.A. Rollins-Smith, K.P. Minbiole, T.P. Umile*

ORGN 397. Bioactive small molecules produced by the fungal pathogen *Batrachochytrium dendrobatidis* and their impact on probiotic bacterial defenses. *B.M. Gillard, M.H. Kehs, T.P. Umile*

ORGN 398. Synthesis of rocaglate photoaffinity probes for target identification studies. *N. Vallavaju, H. Yueh, S. Chatterjee, L.E. Brown, I. Kramnik, A.B. Beeler, J.A. Porco*

ORGN 399. DNA-catalyst conjugated enzyme mimic for site-selective chemistry. *M.L. Flanagan, A. Goga, L. Young, E. Arguella, D. Colman, J. Kim, J. Krejci, S. Liu, Y. Yao, Y. Zhang, D.J. Gorin*

ORGN 400. Clickable photoconvertible diazoxanthilidene probe to study protein foldings in live cells. *J.V. Jun, C. Haney, M.N. Tran, E. Petersson, D.M. Chenoweth*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Chemistry of Fullerenes, Carbon Nanotubes & Graphene

S. M. Silverman, *Organizer*

5:30 – 7:30

ORGN 401. Synthesis of heteroleptic iridium (III) polypyridyl nanohoop-based complexes. *J.L. Collins, A. Sun, J. Van Raden, S. Louie, R. Jasti, C. Stephenson*

ORGN 402. Synthesis and characterization of [10] cycloparaphenylenes and related compounds containing internal phthalimido bridges. *S. Li, M. Aljhdli, K.K. Wang*

ORGN 403. Longitudinal pi-extension of strained benzenoid macrocycles to PAH-containing macrocycles. *N. Mitra*

ORGN 404. Near-infrared photoluminescent imaging of carbon nanotubes locally implanted in mice. *E. Hirata, M. Yudasaka, H. Kataura, T. Tanaka, A. Yokoyama*

ORGN 405. Metal oxide nanoparticle covalently supported on three-dimensional graphene: Synthesis and catalytic performance. *X. Yang*

ORGN 406. Cycloaddition chemistry of cyclooligo(3,3"-paraterphenylene ethynylene): Precursor to an armchair carbon nanobelt. *T.S. Hughes, S. Curtsinger*

ORGN 407. Copper-catalyzed aziridination of fullerene, carbon nanotubes, and graphite. *S. Luo, J.M. Schnorr, T.M. Swager*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Flow Chemistry & Continuous Processes

S. M. Silverman, *Organizer*

5:30 – 7:30

ORGN 408. Flow chemistry platform for high-throughput screening of rhodium-catalyzed hydroformylation of 1-octene. *C. Zhu, C.W. Coley, K. Raghuvanshi, M. Abolhasani*

ORGN 409. NSERC CREATE Program in Continuous Flow Science. *V. Kairouz, S.K. Collins, A.B. Charette*

ORGN 410. Droplet microfluidics platform for the high-throughput screening of photoredox catalysis reactions. *A. Sun, D. Steyer, B. Shay, R. Kennedy, C. Stephenson*

ORGN 411. Flow chemistry implementation of the "Gupton vinylgous amide chemistry" for high yield, regioselective, synthesis of unsymmetrical polysubstituted pyrroles and azaisoquinolines. *R.N. Dorniney, E.W. Goldman, J.T. Gupton, D. Fisher, J. Noble, C. Perez Mandry*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Materials, Devices & Switches

S. M. Silverman, *Organizer*

5:30 – 7:30

ORGN 412. Switching between ionic and radical states in a combined quinoidic and thiazolenic system. *S. Intorp, J. Freudenberg, F. Hinkel, U.H. Bunz*

ORGN 413. Multimodal carbon nanotube-based sensors with tunable sensitivity for nitric oxide detection. *L. Je, M. He, S. Savagatrup, T.M. Swager*

ORGN 414. Conversion of elemental sulfur to materials. *H. Lin, T.M. Swager*

ORGN 415. Synthesis and characterization of new thienoimidazole materials for perovskite solar cells. *W. Li, Y. Jheng, C. Su, B. Chen, S. Akula*

ORGN 416. Ultra-high thermal effusivity materials for resonant ambient thermal energy harvesting. *A. Cottrill, V. Koman, A. Liu, M. Strano*

ORGN 417. Synthesis of new host materials for organic light-emitting diodes guided by computational predictions. *D. Wheeler, L. Rainwater, A.L. Tomlinson, M. Jeffries-El*

ORGN 418. Synthesis of modular CB6 derivatives for HYPER-CEST imaging. *D.H. Robinson*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Molecular Recognition & Self-Assembly

S. M. Silverman, *Organizer*

ORGN

5:30 – 7:30

ORGN 419. Enantioselective anion recognition with chiral halogen bonding rotaxanes. *J.Y. Lim, I. Marques, V. Felix, P. Beier*

ORGN 420. Synthesis of iron hydrogen phosphate with micro-flower hierarchical structure: Unique morphology and effective peroxidase mimic catalytic performance. *M. Sun, P. Wang, M. Lu*

ORGN 421. Thianthrene based anion sensors. *S.I. Etkind, R. Zhu, T.M. Swager*

ORGN 422. Cyclic paraquat trimers. *O. Anamimoghadam, J.A. Cooper, M.T. Nguyen, Q. Guo, I. Roy, L. Redfern, O.K. Farha, J.F. Stoddart*

ORGN 423. Synthesis of thioether-functionalized liquid crystalline crown ethers. *K. Schmitt, J. Kirres, S. Laschat*

ORGN 424. Pair-inclusion motif for sequence-specific peptide recognition by cucurbit[8]uril. *Z. Hirani, H.F. Taylor, A.T. Bockus, A.R. Urbach*

ORGN 425. Self-assembly of imine-linked macrocycles related to 2D covalent organic frameworks. *S. Wang, A. Chavez, W.R. Dichtel*

ORGN 426. Differential solvation: Proof of concept by solvochromic and temperature-responsive properties of alkyl/triethylene glycol side chains. *P. Öztürk, A. Akdağ*

ORGN 427. Covalent post-assembly modification triggers multiple structural transformations of a tetrazine-edged Fe₄L₄ tetrahedron. *B.S. Pilgrim, D. Roberts, G. Sirvinskaitė, T. Ronson, J. Nitschke*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Nanoscience, Nanotechnology & Beyond

S. M. Silverman, Organizer

5:30 – 7:30

ORGN 428. Complex colloids incorporating GFP chromophores with morphology-related luminescence. *C. Lin, L. Zeininger, T.M. Swager*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species

S. M. Silverman, Organizer

5:30 – 7:30

ORGN 429. Let's shake things up: An investigation into solid-state Grignard chemistry. *I.R. Speight, T.P. Hanusa*

ORGN 430. Mechanochemistry as an alternative approach to the synthesis of porous metal-organic materials. *S. Li, H.M. Titi, C. Mottillo, T. Friscic*

ORGN 431. Understanding the stepwise mechanism in the formation of halogen-bonded organic cocrystals by mechanochemistry. *F. Topic, P. Hinalde, M. Arhangelskis, R. Tran, T. Friscic*

ORGN 432. Understanding mechanochemical syntheses using *in situ* X-ray diffraction and spectroscopy. *P.A. Julien, T. Friscic, I. Malvestiti*

ORGN 433. Real-time *in situ* monitoring of solid-state reactions: Accelerated aging vs. mechanical milling. *I. Huskić, M. Arhangelskis, T. Friscic*

ORGN 434. Mechanochemical synthesis of ultralight boron imidazolate structures. *C. Lennox, J. Crew, L. Do, A.J. Howarth, O.K. Farha, T. Friscic*

ORGN 435. Understanding the thermodynamics of stepwise mechanochemical transformations. *A.D. Katsenis, M. Arhangelskis, N. Novendra, A. Navratsky, T. Friscic*

ORGN 436. Mechanochemical synthesis based on resonant acoustic mixing. *H.M. Titi, L. Do, A.D. Katsenis, K. Nagapudi, T. Friscic*

ORGN 437. Design and synthesis of high-performance hole blocking materials with high triplet energy and glass transition temperature for blue phosphorescent organic light-emitting diodes. *S. Jang, Y. Lee*

ORGN 438. Advances in computational NMR structure elucidation by DP4: Automation, optimisation and raw data analysis. *K. Ermanis, A. Howarth, J.M. Goodman*

ORGN 439. Weighting and scaling methods in vibrational circular dichroism as a predictor of absolute chirality. *J. Lam, R.J. Lewis, J.M. Goodman*

ORGN 440. Generation and reactions of a pyramidalized alkene. *E. Brutschea, I. Armento, M.A. Forman*

ORGN 441. Dipyridinium phenanthrene dihydrodioxin (PDHD): Synthesis, photochemistry, DNA binding and cleaving properties. *A. Tikhomirova, R.M. Wilson*

ORGN 442. Solvent effect and electronic modulation of amide bond resonance in DEET analogs. *D. Marrelli, J. Guerra, B. Bajwa, P. Kumar, K.V. Krishnan, S. Maitra*

ORGN 443. Difluoromethyl group, a hydrogen bond donor. *F. Wang, C.D. Sessler, M. Rahm, S. Becker, J.M. Goldberg, S.J. Lippard*

ORGN 444. Interfacial strategies to study reactive oxygen intermediates. *N. Walalawela, S. Belh, B. Malek, A. Greer*

ORGN 445. Kinetic control in the alkylation of pterin photosensitizers: Synthetic, photochemical, and theoretical studies. *N. Walalawela, M. Vignoni, M. Urrutia, S. Belh, E. Greer, A. Thomas, A. Greer*

ORGN 446. Superhydrophobic photosensitizers: Airborne singlet oxygen killing of an *in-vitro* oral biofilm at the plastron interface. *S. Pushalkar, G. Ghosh, Q. Xu, Y. Liu, A. Ghogare, C. Atem, A. Greer, D. Saxena, A. Lyons*

ORGN 447. Synthesis and photochemical properties of a series of artificial anthocyanidins. *A. Pagan, A. Shalan, R. Mesadieu, J. Lee, J. Kang*

ORGN 448. DFT calculated reactions of a prenylated phloroglucinol with singlet oxygen. *P.P. Mahapatra, A. Greer*

ORGN 449. Superhydrophobic surface engineering considerations for an enhanced ¹O₂ output: Theoretical evaluation of maximizing the sensitizer population in the plastron. *S. Belh, G. Ghosh, Q. Xu, A. Lyons, A. Greer*

ORGN 450. Mild radical fluorination promoted by halogen bonding. *S. Baker, A.M. Hua, R. Baxter*

ORGN 451. Computational studies of intermolecular Diels-Alder reactions of α -amido acrylates. *N. Sizemore, E. Heil*

ORGN 452. Spectrophotometric study of pH dependent artificial anthocyanidins for dye-sensitized solar cells. *H. Khan, Y. Lhamo, M. Mimy, J. Lee, J. Kang*

ORGN 453. Computational study of stereoselectivity in Cu and Ir-catalyzed hydrogenations. *S. Tcyrulnikov, M. Kozlowski*

ORGN 454. Studies of heavy-atom tunneling in organic reactions. *C. Doubleday, D. Walker, R. Armas, C.V. Cosgriff, E. Greer*

ORGN 455. Exceptionally close, non-bonded hydrogen-hydrogen contact with strong through-space spin-spin coupling. *Y. Xiao, J.T. Mague, R. Pascal*

WEDNESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 255

Total Synthesis of Complex Molecules

R. D. Broene, Organizer
P. H. Toy, Presiding

8:20 ORGN 456. Synthesis of fatty acid amides from Sichuan pepper. *P.H. Toy*

8:40 ORGN 457. *De novo* total syntheses of batatinoside II and its stereoisomers and related stereochemical structure activity relationship (S-SAR). *X. Liu, M. Li, G.A. O'Doherty*

9:00 ORGN 458. Synthesis of anti-inflammatory oxacyclododecandione-type macrolactones. *C. Weber, T. Opatz*

9:20 ORGN 459. Total synthesis of ovafolinin A and B. *D. Barker, S. Davidson*

9:40 ORGN 460. Total synthesis of thiopeptide antibiotics of the D-series. *A. Hinds*

10:00 ORGN 461. Total synthesis of the neoclerodane diterpene salvinorin A via an intramolecular Diels-Alder strategy. *P. Metz, Y. Wang, P. Zimdars*

10:20 ORGN 462. Chemical synthesis of illudiacic acid. *P. Batsomboon, G.B. Dudley*

10:40 ORGN 463. Formal synthesis of syringolide 1. *S. Mito, S. Kalagara, G. Orozco*

11:00 ORGN 464. Synthesis of 9- and 10-membered carbocyclic analogs inspired by the natural product UK-2A. *J. Wilmot, J. Herrick, D. Jones, K.G. Meyer, C. Yao, F. Li, K. Bravo-Altamirano, R. LaLonde, A. Arnold, J.M. Renga*

SECTION B

Boston Convention & Exhibition Center
Room 256

Metal-Mediated Reactions & Syntheses

R. D. Broene, Organizer
P. Kaur, Presiding

8:20 ORGN 465. Glycosyl cross-coupling with diaryliodonium salts: Access to aryl C-glycosides of biomedical relevance. *D. Yi, M.A. Walczak, F. Zhu*

8:40 ORGN 466. Rhodium-catalyzed carbon-oxygen bond reduction and alkylation of aryl carbamates using alcohol. *K. Yasui, N. Chatani, M. Tobisu*

9:00 ORGN 467. Glycosyl cross-coupling of anomeric nucleophiles – scope, mechanism and applications in the synthesis of aryl C-glycoside. *F. Zhu, M.A. Walczak, P. Liu, D. Yi, T. Yang*

9:20 ORGN 468. Iron(II)chloride assisted tertiary allylic alcohol rearrangement. *A.A. Oppong, B.L. DeBoef*

9:40 ORGN 469. Ruthenium-catalyzed C-H arylation of 1-naphthol with aryl and heteroaryl halides. *A.M. Spiewak, D. Weix*

10:00 Intermission.

10:10 ORGN 470. Non-traditional approach to chemical catalysis to achieve selective reaction pathways. *S. Handa, M. Bihani, F. Ibrahim, J.D. Smith*

10:30 ORGN 471. Synthesis of polyurethane monomers from renewable resources via one-pot isomerization metathesis reactions. *E. Kovacs, G. Turczel, L. Szabó, R. Varga, I. Tóth, P.T. Anastas, R. Tuba*

10:50 ORGN 472. Catalytic direct transformation of amides and imides: Useful chemistry for medicinal chemistry and natural product synthesis. *P. Huang*

11:10 ORGN 473. NiBr₂ catalyzed oxidative esterification of allylic sp³-carbon via cross-dehydrogenative coupling followed by *in-situ* reduction. *P. Kaur*

SECTION C

Boston Convention & Exhibition Center
Room 254A

Asymmetric Reactions & Syntheses

R. D. Broene, Organizer
S. N. Greszler, Presiding

8:00 ORGN 474. Asymmetric [2+2] cycloaddition of alkynes with cyclic enol silyl ethers and double Michael additions for the synthesis of spiroindoles. *T. Kang, X. Feng*

8:20 ORGN 475. Asymmetric intramolecular Cannizzaro reaction and MPV reaction: Hydride transfer reactions enabled by Lewis acid catalysis. *W. Wu, X. Feng*

8:40 ORGN 476. *De novo* synthesis of 5a-carbasugar analogues of SLO101. *Y. Li, G.A. O'Doherty*

9:00 ORGN 477. New efficient catalyst libraries for the preparation of challenging high value chiral compounds. *M. Diéguez, M. Biosca, J. Margalef, P. Norrby, F. Maseras, M.A. Pericas, O. Pamies*

9:20 ORGN 478. Enabling synthesis of ABBV-2222, a phase-II clinical candidate for the treatment of cystic fibrosis. *S.N. Greszler, G. Halvorsen, X. Searle, B. Shelat, E.A. Voight, X. Wang*

9:40 ORGN 479. Asymmetric synthesis of gonytolide A. *X. Wu, T. Iwata, A. Scharf, T. Qin, K. Reichl, J.A. Porco*

10:00 ORGN 480. Enzyme cascade reaction for the synthesis of cyclic imino acid derivatives. *H. Kawabata*

10:20 ORGN 481. Chiral Brønsted acid-catalyzed asymmetric transformations of 3-substituted 3-hydroxyisoindolinones. *M. Grediacak*

10:40 ORGN 482. Computations of stereoselectivity of asymmetric allenolate annulations. *A. Simon, K.N. Houk*

11:00 ORGN 483. Photocatalyzed cascade for synthesis of the tetracyclic core of akumamine alkaloids. *Q. Wang, N. Zheng*

11:20 ORGN 484. Chemoenzymatic deracemization of chiral sulfoxides. *V. Nosek, J. Misek*

11:40 ORGN 485. Practical asymmetric hydrogenation. *X. Zhang*

SECTION D

Boston Convention & Exhibition Center
Room 254B

Diminutive Molecules, Big Impact: The Chemistry of ADC Linker-Payloads

D. E. Carrera, S. G. Koenig, Organizers, Presiding

8:15 Introductory Remarks.

8:20 ORGN 486. Cysteine arylation to produce site-specific antibody drug conjugates. *B.L. Pentelute*

8:50 ORGN 487. Characterization of monoclonal antibodies and antibody drug conjugates using microfluidic CE-MS technology. *E. Redman, J.P. Guerrette, J.S. Mellors*

9:20 ORGN 488. Challenges and opportunities in the synthesis of ADC payloads. *W.R. Goundry*

9:50 Intermission.

10:10 ORGN 489. Early process development in the synthesis of linked, highly potent payloads for aCD22 and aly6E antibody conjugation. *L. Sirois, Q. Tian, R. Angelaud, H. Yajima, H. Zhou, F. Gosselin*

10:40 ORGN 490. Antibody drug conjugates: Process development and analytical considerations. *M.B. Hay*

11:10 ORGN 491. Improved manufacturing process for semi-synthetic calicheamicin linker-payload en route to antibody-drug conjugates. *L.J. Letendre*

SECTION E

Boston Convention & Exhibition Center
Room 253C

Technical Achievements in Organic Chemistry

Cosponsored by CTA

T. Braden, Organizer, Presiding

8:40 Introductory Remarks.

8:45 ORGN 492. Asymmetric route development of a key fragment (*trans*-3-amino-4-fluoro-pyrrolidine) in route to PF-06747775, an EGFR inhibitor. *D. Widlicka*

9:15 ORGN 493. From HTS lead to clinic: Discovery of PF-06747775. A high affinity irreversible inhibitor targeting oncogenic EGFR mutants with selectivity over wild-type EGFR. *S. Planken*

9:45 ORGN 494. Successful fluorination of a challenging heterocycle using anhydrous tetramethylammonium fluoride on pilot scale. *J.R. Rizzo, S. Ryan, Y. Lu, M.K. Hawk*

10:15 Intermission.

10:30 ORGN 495. Discovery of ABBV/GLPG-2222, a potent, efficacious CFTR corrector for the treatment of cystic fibrosis and back up effort on THP series. *B. Liu*

11:00 ORGN 496. Considerations in the generation of covalent BTK inhibitors. *N. Wilson*

11:30 ORGN 497. Spiro-azetidone isoxazolines: The discovery of a new class of oral flea and tick parasiticides in canines. *M.P. Curtis*

SECTION F

Boston Convention & Exhibition Center
Room 253B

CH Activation

R. D. Broene, Organizer

C. E. Hendrick, Presiding

8:20 ORGN 498. Pd-catalyzed γ -C(sp³)-H arylation of free amines using a transient directing group. *Y. Chen, J. Yu*

8:40 ORGN 499. Ortho/ortho acids: New transient directing groups for benzaldehyde ortho C-H methylation and fluorination via Pd catalysis. *X. Chen, E.J. Sorensen*

9:00 ORGN 500. C-H to C-N cross-coupling of sulfonamides with olefins. *R. Ma, M. White*

9:20 ORGN 501. Computational exploration of Pd(II)-catalyzed C-H activations. *K. Bay, K.N. Houk*

9:40 ORGN 502. Copper-catalyzed intramolecular C-H amination for the synthesis of quinoxalione derivatives and rutaecarpine via ring-opening cyclization (ROC) strategy. *S. Malipatel*

10:00 Intermission.

10:10 ORGN 503. Catalytic C(sp³)-H alkylation via an iron carbene intermediate. *C.I. Wendell, J. Griffin, J. Garwin, M. White*

10:30 ORGN 504. C-H functionalization through a Ni^{II}/Ni^{IV} catalytic cycle. *C. Roberts, E. Chong, M.S. Sanford*

11:10 ORGN 505. Investigation of Taml, an iterative P450 monooxygenase, for engineering as a biocatalyst for selective C-H oxidation. *K.J. Caddell Haaveit, K. Srivastava, S. Newmister, R. Vasquez, S. Yang, M. Garcia-Borrás, K.N. Houk, J. Montgomery, D.H. Sherman*

11:30 ORGN 506. Chemoselective C_{sp³}-H functionalization of alkylbenzenes via palladium catalysis. *C.E. Hendrick, P.A. Amadeo, P. Nahide, G. Hong, U. Kumar, K.F. VanGelder, M. Kozlowski*

Synthesis & Chemistry of Agrochemicals

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC² and ORGN

WEDNESDAY AFTERNOON

SECTION A

Boston Convention & Exhibition Center
Room 255

Molecular Recognition & Self-Assembly

R. D. Broene, Organizer

K. A. Wheeler, Presiding

1:20 ORGN 507. Intermolecular interactions and self-assembly of cation-radical salts with weakly-coordinating anions. *S.V. Rosokha*

1:40 ORGN 508. Structure-driven selection of adaptive transmembrane Na⁺ carriers or K⁺ channels. *M. Barboiu*

2:00 ORGN 509. Outfitting 'Blue Box' with short-side arms tunes radical-radical interactions. *O. Ananmoghadam, M.T. Nguyen, J.A. Cooper, C. Pezzato, H. Patel, J.F. Stoddart*

2:20 ORGN 510. Chiral chromatography to access non-covalent interactions. *S.C. Hsu, S.E. Snyder, J. Carey*

2:40 ORGN 511. Discrimination and quantitation for carboxylate anions in neutral aqueous solution using a calcein-PAMAM complex. *Y. Xu, M. Bonizzoni*

3:00 ORGN 512. Higher order cyclodextrin architectures: Synthesis, binding, and colorimetric detection applications. *M. Levine, S. Chaudhuri*

3:20 ORGN 513. Biomimetic peptide hydrogels for modulating lipoprotein homeostasis. *B. Sarkar, P. Nguyen, V.H. Harbour, P. Iglesias-Montoro, V.A. Kumar*

3:40 ORGN 514. Structure-targeted, controlled assembly of small molecule-DNA hybrids through tuning small molecule core geometry, supramolecular flexibility, and length of DNA arms. *B. Hong, V.Y. Cho, G.C. Schatz, S.T. Nguyen*

4:00 ORGN 515. Signal transduction in a covalent post-assembly modification cascade. *B.S. Pilgrim, D. Roberts, T. Ranson, T. Lohr, J. Nitschke*

4:20 ORGN 516. Reverse Hofmeister effects in synthetic hosts: Functional group dependence for the inverse Hofmeister series. *J.H. Jordan, A. Wishard, W. Yao, B.C. Gibb*

4:40 ORGN 517. Structural divergent reactions on racemic mixtures: The dynamic combinatorial dimension. *T.M. Gianga, G. Pantos*

SECTION B

Boston Convention & Exhibition Center
Room 256

Total Synthesis of Complex Molecules

R. D. Broene, Organizer

C. C. Nawrat, Presiding

1:00 ORGN 518. Total synthesis of parvineostemone by structure pattern recognition - a unified approach to *Stemona* and *Sarpagine* alkaloids. *C. Gerlinger*

1:20 ORGN 519. Enantioselective total synthesis of (+)-Peganumine A. *C. Piemontesi, Q. Wang, J. Zhu*

1:40 ORGN 520. Total synthesis of 6,7-dideoxysqualostat H5. *H.A. Almoheeni, D.M. Hodgson*

2:00 ORGN 521. Total synthesis of the bacterial siderophore madurastatin C1. *A. Tyler, M. Hall*

2:20 ORGN 522. Total synthesis of (-)-bicubebin A, (-)-bicubebin B and (+)-bicubebin C. *D. Barker, S. Davidson*

2:40 ORGN 523. Beyond optical rotation in total synthesis: New insights into the stereochemical confusion surrounding frondosin B. *C.C. Nawrat, L.A. Joyce*

3:00 ORGN 524. Assignment and synthesis of the true structure of cyclocinamide A. *J.K. Cooper, K. Li, J. Aube, J.P. Konopelski*

3:20 ORGN 525. Total synthesis of oxaphalenone natural products derived from corymbiferan lactone E. *T. Purgett, M.W. Dyer, J.A. Porco*

SECTION C

Boston Convention & Exhibition Center
Room 254A

Carbon Allotropes, Materials, Devices & Switches

R. D. Broene, Organizer

B. L. DeBoef, Presiding

1:10 ORGN 526. Magnetic properties of nitroxide radicals in liquid crystalline phases. *Y. Uchida, T. Akira, N. Nishiyama*

1:30 ORGN 527. Advances in sorbent materials for detection and protection applications. *C.A. Roberts, A. Kusterbeck, M. Papantonakis, R.A. McGill*

1:50 ORGN 528. Photochemical approaches to induce nanoscale adhesion. *S. Mostafavi, F. Tong, C.J. Bardeen*

2:10 ORGN 529. Discovering new Faraday rotators: Towards structure-property relationships for magneto-optical effects. *M. Peeks, T.M. Swager*

2:30 ORGN 530. Covalent and ionic capacity of MOFs to sorb gases. *A. Poater, J. Poater, M. Gimferrer*

2:50 ORGN 531. New molecular and supramolecular architectures for binding xenon. *B.L. DeBoef*

3:10 ORGN 532. Complementary hydrogen bonding induces dramatic electronic perturbation giving rise to electrical conductivity in weak aromatic donor/acceptor molecules. *C. Liu, D.F. Perepichka*

3:30 ORGN 533. Electronic structure study of peropyrenes, chiroperopyrenes and teropyrenes. *R. Kazemi Khouzani, W. Yang, S. Mukherjee, N. Karunathilake, W. Chalifoux, S.A. Varganov, M.A. Alpuche-Aviles*

3:50 ORGN 534. Towards an experimentally-accessible library of carbon schwarzites via zeolite-templating. *E. Braun, Y. Lee, M.S. Moavasi, S. Barthel, R. Mercado, I.A. Baburin, D.M. Proserpio, B. Smit*

4:10 ORGN 535. Anisotropic magnetic properties of an endohedral metallofullerene for molecular location sensing. *Y. Takano, R. Tashita, M. Suzuki, H. Imahori, T. Akasaka*

4:30 ORGN 536. Preparation of open-cage fullerene derivatives by rhodium(I)-catalyzed [2+2+2] cycloaddition of diynes and C₆₀: An experimental and theoretical study. *A. Artigas, E. Castro, A. Pla-Quintana, A. Lledó, L. Echegoyen, M. Solà, A. Roglans*

4:50 ORGN 537. Super resolution imaging of graphene nanoribbons decorated with fluorescent dyes. *D. Joshi, M. Hauser, A. Berl, G. Veber, K. Xu, F.R. Fischer*

SECTION D

Boston Convention & Exhibition Center
Room 254B

Diminutive Molecules, Big Impact: The Chemistry of ADC Linker-Payloads

D. E. Carrera, S. G. Koenig, Organizers, Presiding

1:00 ORGN 538. Building linkerless ADCs and CO-releasing antibodies for cancer therapeutics. *G. Bernardes*

1:30 ORGN 539. Engineering & manufacture of second generation ADCs: Tools & techniques. *G. Allway*

2:00 ORGN 540. Process development of highly potent cytotoxic drug-linker payloads. *O. Soltani*

2:30 ORGN 541. Challenges in development and characterization of calicheamicin ADCs. *A.W. Schammel*

3:00 Intermission.

3:20 ORGN 542. Process development of the synthesis and purification of a reactive Immuno-PET conjugate intermediate. *D.E. Carrera*

3:50 ORGN 543. Antibody-drug conjugates: Achieving high bystander killing and improved anti-tumor activity through linker design. *W.C. Widdison*

4:20 ORGN 544. Development and manufacturing of high DAR (10-15) ADCs utilizing the Dolaflexin® platform. *D. Custar*

4:50 Concluding Remarks.

SECTION E

Boston Convention & Exhibition Center
Room 253C

Technical Achievements in Organic Chemistry

Cosponsored by CTA

T. Braden, Organizer

J. Calvin, Presiding

1:00 Introductory Remarks.

1:05 ORGN 545. Leveraging data-rich technologies in process development. *M. Christensen*

1:35 ORGN 546. Process development of GDC-0810 and the synthesis of highly stereodefined tetrasubstituted cyclic all-carbon olefins via a *syn*-elimination approach. *N. Lim*

2:05 ORGN 547. Development of an efficient method to afford (1R,2R,5R)-5-amino-2-methylcyclohexan-1-ol. *M.A. Nagy*

2:35 ORGN 548. Developing methodologies and reagents to enable drug discovery and identify novel molecular targets. *K. Moore*

3:05 Intermission.

3:20 ORGN 549. Chemical biology strategies applied to drug discovery: A case study on MCT4 inhibition. *R. Tomlinson, A. Kawatkar, P. Castaldi, R. Clark, F. Goldberg, S. Critchlow*

3:50 ORGN 550. Synthetic method development in the context of a medicinal program: The discovery of potent and selective inhibitors of NF- κ B inducing kinase. *G. Castaneda*

4:20 ORGN 551. Small molecule discovery at big pharma and small biotech: Factor Xa inhibitors and ROR γ agonists. *C. VanHuis*

4:50 Concluding Remarks.

SECTION F

Boston Convention & Exhibition Center
Room 253B

CH Activation

R. D. Broene, Organizer

H. Ge, Presiding

1:20 ORGN 552. Novel strategies for applications of phenols in the anodic dehydrogenative C-C cross-coupling reaction. *S. Lips, S.R. Waldvogel*

1:40 ORGN 553. Predictive model for oxidative C-H bond functionalization reactivity with 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ). *C.A. Morales-Rivera, P.E. Florencia, P. Liu*

2:00 ORGN 554. Intramolecular hydride transfer onto arynes: Transition metal-free C(sp³)-H functionalisation of amines. *F. Idris, C.E. Majesté, C.R. Jones*

2:20 ORGN 555. Mechanistic investigation of Pd-catalyzed transannular C-H functionalization of alicyclic amines using model Pd⁰ complexes. *E.Y. Aguilera, M.S. Sanford*

2:40 ORGN 556. Transient ligand enabled B-sp³ C-H bond functionalization of cyclic ketones. *K. Seth, S. Lulhe, H. Ge*

3:00 Intermission.

3:10 ORGN 557. Catalytic C-H amination within halide redox manifolds. *K. Muniz*

ORGN/PHYS

3:30 ORGN 558. Regioselective borylation of azinyl heterocycles. *J. Wright, P.G. Steel*

3:50 ORGN 559. Regioselective C–H alkylation of five-membered heteroarenes and its application to the synthesis of benzo-fused heteroarenes. *J. Joo*

4:10 ORGN 560. Direct difluoromethylation of heterocycles using difluoroacetic acid. *J. Nielsen, T. Tung, S.B. Christensen*

4:30 ORGN 561. Transient ligands for direct functionalization of aldehydes and amines. *H. Ge*

Surfactant & Colloid Science as Applied to Agrochemical Formulations

Sponsored by AGRO, Cosponsored by AGFD, ENVR[†] and ORGN

Strategies for Radiolabeling Agrochemicals in Regulatory Studies & Advanced Techniques for Characterization

Sponsored by AGRO, Cosponsored by ORGN

Synthesis & Chemistry of Agrochemicals: ACS Industrial Chemistry Award Symposium in honor of George P. Lahm

Sponsored by AGRO, Cosponsored by AGFD, ENVR, I&EC[‡] and ORGN

WEDNESDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B1

Heterocycles & Aromatics

S. M. Silverman, Organizer

7:00 – 9:00

ORGN 562. Towards the development of cross-conjugated benzobisoxazoles for use in organic photovoltaics. *A.A. Burney-Allen, M. Jeffries-El, A.L. Tomlinson*

ORGN 563. Synthesis of aryl-orthoesters: New building blocks for organic semiconductors. *N. Berry, M. Jeffries-El*

ORGN 564. Efficient synthesis and conformational analysis of *N*-alkyl aromatic oligoamides bearing pyridinecarboxamides. *K. Fukuda, A. Ito, Y. Shimura, T. Kishi, R. Yamasaki, I. Okamoto*

ORGN 565. Synthesis of bacteriochlorins with β -meso annulated aromatic rings. *H. Fujita, V. Gorre, S.R. Allu, Z. Wu, J.S. Lindsey*

ORGN 566. Mechanistic studies on Chichibabin pyridinium synthesis. *A. Imura, T. Usuki*

ORGN 567. Green oxidation of biomass-derived feedstocks with sodium chlorite/sulfamic acid. *E.M. Serum, C. Sutton, K.D. Grieger, M.P. Sibi*

ORGN 568. Exploring the scope of cationic 1,3-diaza-Claisen rearrangements from *in-situ* generated carbodiimides that afford highly-substituted cyclic guanidines. *J. Tocher, Y. Yang, J.S. Madaleno*

ORGN 569. Synthesis and structural analysis of benzo-pyrrolol[1,2-*a*]1,4-diazepin-4-one with Csp³ diversification at the benzylic position. *A. Blayo, B. Manteau, S. Mayer*

ORGN 570. Aryne-mediated intramolecular Alder-ene reaction to form benzocyclobutenes. *S. Gupta, D. Lee*

ORGN 571. Synthesis of binaphthyl chiral selenides which has various aryl groups at 3,3' position and asymmetric bromolactonization. *H. Ichikawa, K. Shiba*

ORGN 572. Synthesis of multi-deuterated desmosine. *R. Yokoo, D. Watanabe, R. Suzuki, T. Usuki*

ORGN 573. Synthesis and fluorescent properties of 2-((2-aminoethyl) amino)-1-benzyl-5-oxopyrrolidine-3,4-diyldiacetate with europium and terbium. *B. Ali*

ORGN 574. Redox-induced structural switching of linkage bearing aromatic amides aimed at regulation of SNIPER activity. *R. Yamasaki, K. Shibuya, A. Ito, K. Fukuda, I. Okamoto*

ORGN 575. Fast and efficient synthesis of quinazoline derivatives. *M. Lamberto, N. Sivet, E. Smith, T. Soobryan*

ORGN 576. Synthesis of unique high fsp³ building blocks for DNA-encoded libraries. *A. Szappanos, B. Gyimóthy, K. Niesz, T. Sipőcz*

ORGN 577. Synthesis of substituted pyrazolines: Inhibitors of bacterial infections. *R.E. Sammelson, T. Crull, A. Lloyd, S. McDowell*

ORGN 578. Spontaneous aerobic oxidation of 1,1,2,2-tetrakis(*N*-methylpyridin-4-ium)methane iodide: Reaction mechanism and DNA binding/cleaving activity of the salt and its oxidation products. *N. Tcyrlinikov, R.M. Wilson*

ORGN 579. New insights into the synthesis of imidazo[2,1-*b*]thiazoles using Lewis and Brønsted acid-catalyzed Gröbke-Blackburn-Bienaymé reaction. *E.S. Fiorentino, N.S. Anjos, L.S. Longo, Jr*

ORGN 580. Construction of heterocyclic compounds mediated by samarium(II) diiodide. *H. Iwasaki, N. Kojima, M. Yamashita*

ORGN 581. Introducing tetrazole rings to an organic frame to enhance its nitrogen content. *J. Ma, H. Yang, G. Cheng*

ORGN 582. Synthesis of mutagenic DNA adducts derived from 2-amino- α -carboline derivatives. *A.A. Oppong, B.L. DeBoef, B. Cho, D. Li*

ORGN 583. One-pot synthesis of functionalized 1,4-thiazepine derivatives from *N*-(2,4-pentadiynyl)- β -enaminones. *E.S. Yilmaz, Y. Kelgokmen, M. Zora*

ORGN 584. Synthesis of indoloquinolines via domino reactions of *ortho*-alkynylarylketones. *J. Tummatarn, B. Akkachairin, N. Khamsuwan, C. Thongsornkeeb, S. Ruchirawat*

ORGN 585. Synthesis of tetraarylmethanes via a Friedel-Crafts cyclization/desulfurization strategy. *A.J. Catino*

ORGN 586. Heterocyclic amino acids as scaffolds for the synthesis of functionalized chiral 1,3-thiazole and 1,3-selenazole derivatives. *A. Sackus, A. Kveselyte, V. Malinauskienė, K. Dzedulionyte, A. Bieliauskas, S. Burinkas, S. Krikstolaityte, F.A. Slak*

ORGN 587. Tetrabromo-TIPS-tetraazapentacene and its airstable radical anion. *H. Reiss, L. Ji, A. Friedrich, I. Krummenacher, H. Braunschweig, M. Moos, C.A. Lambert, T.B. Marder, J. Freudenberger, F. Hinkel, U. Bunz*

ORGN 588. Synthesis of 2,4,5-trisubstituted pyridines from *N*-propargylic β -enaminones. *M. Zora, Y. Kelgokmen*

ORGN 589. Toward synthesis of singlet fission exhibiting mesoionic compounds. *G. Çalişgan, A. Akdağ*

ORGN 590. Synthesis of fluoro-enaminones from 2-fluoro-alk-3-yn-1-ones. *A.W. Kaspi-Kaneti, A. Walsh, T.L. Olson, D.J. Twardy, R. Dembinski*

ORGN 591. Synthesis of a novel chiral *N,N,O,C*-boron chelated dipyrromethene. *R.G. Clarke, M. Hall*

ORGN 592. Copper-catalyzed synthesis of 4-methylene-4,5-dihydrooxazoles. *M. Ferraro, M.W. Fennie*

ORGN 593. Synthesis of cyano-labeled tryptophan spectroscopic reporters. *M.W. Fennie, J. Mauro*

ORGN 594. Environmentally benign solid acid-catalyzed coupling of diazonium salts with aromatic hydrocarbons and heterocycles for the syntheses of biaryls and heterobiaryls. *G. Pandey, A. Kokeł, J. Beuscart, B. Torok*

ORGN 595. 2,2,2-Trifluoroethoxide: Alternative leaving group for hydrolytically unstable heterocyclic chlorides. *E.L. Fisher, J.M. Humphrey, C. Ende*

ORGN 596. Route optimization and enablement towards the synthesis of pyridopyrazine-1,6-dione gamma secretase modulators via selective 4-methylimidazole N1-Buchwald arylation. *J.M. Humphrey, L. Xie*

ORGN 597. Synthesis and electrochemical properties of redox active diaryl sulfides towards electroactive poly(phenylene sulfide)s. *N. Romero, M.T. Swager*

ORGN 598. Ultrasound-assisted greener reaction of *o*-phenylenediamine with aldehyde: Benzimidazole versus 1,2-disubstituted benzimidazole formation. *D. Bandyopadhyay, D.R. Garcia, J.M. Rock, J. Cruz*

ORGN 599. Mechanism and methodology of diynal cycloaromatization in the presence of copper, silver, palladium or gold catalysts: Towards extended polycyclic aromatic hydrocarbons. *T.S. Hughes, K.M. Allen*

ORGN 600. Enantioselective Fluorescent Sensors for Chiral Carboxylates. *S. Sheykhi*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B1

New Reactions & Methodology

S. M. Silverman, Organizer

7:00 – 9:00

ORGN 601. Application of miniaturized design of experiments studies to the optimization of a methyl ester hydrolysis. *J. Magano, D. Damon, f. Liu, R. Post, B. Sitter, K. Wang*

ORGN 602. Convenient one-pot synthesis of allysilane from enolizable aryl ketones via abnormal Peterson olefination reaction. *M.L. Kwan, Q.D. Tran*

ORGN 603. Hypervalent iodine mediated alkene functionalization: inter-intramolecular Ritter-type aminohydroxylation and diamination. *S. Jung, D. Kim, K. Hong*

ORGN 604. Benzodiazepines via formal arylne C(sp³)-N σ -bond insertion. *Y. Yang, C.R. Jones*

ORGN 605. Convenient handling of reactive gases: Methods for carbonylation and fluorosulfate synthesis. *J. Demaerel, C. Verysse, W.M. De Borggraeve*

ORGN 606. Catalyst and solvent free microwave-assisted synthesis of substituted 1,2,3-triazoles. *S. Roshandel, S.C. Suri, J.C. Marcischak, G. Rasul, S.G. Prakash*

ORGN 607. Synthesis of α -amino acylboron bearing hydroxylamine moiety for preparation of peptides bearing acylboron moiety. *R. Takahashi, J. Taguchi, J.W. Bode, H. Ito*

ORGN 608. Copper(I)-catalyzed regio- and diastereoselective intramolecular alkylation of terminal allenyls. *Y. Ozawa, H. Iwamoto, H. Ito*

ORGN 609. Siladifluoromethylation of phosphorus compounds using TMSCF₃: Accessing a new class of fluorinated phosphorus reagents with a range of potential applications. *C. Barrett, V. Krishnamurti, S.G. Prakash*

ORGN 610. Visible-light-induced thiofluoroalkylation and oxyfluoroalkylation. *C. Yu, E. Cho*

ORGN 611. Direct C(sp²-H) trifluoromethylation of enamides and pyridinones using TMSCF₃. *V. Krishnamurti, S.B. Munoz, S.G. Prakash*

ORGN 612. Practical selective monohydrolysis of bulky symmetric diesters. *S. Niwayama, J. Shi*

ORGN 613. Superelectrophilic activation of trifluoromethylaldehyde to perform Friedel-Crafts reaction. *A. Nirmalchandar, S. Roshandel, H.E. Vaghaa, T. Mathew, S.G. Prakash*

ORGN 614. Endeavors toward the synthesis of terpenoid frameworks. *O. Lahtigui, A.J. Grenning*

ORGN 615. Organoaluminum mediated abnormal Peterson olefination reaction in allylsilane synthesis from enolizable ketones. *M.L. Kwan, P.R. Challen, Q.D. Tran*

ORGN 616. ASMIC-driven synthesis of vinyl isocyanide. *A. Bendia, F. Fleming*

ORGN 617. Hydroxylammonium salts as simple, versatile, highly effective oxidation catalysts. *S.A. Miller, K. Bissett, N. Eddy, N.E. Leadbeater*

ORGN 618. Lewis acid-catalyzed oxygen-atom-transfer of cyclic, aryl and aliphatic ketones. *H.L. Vonesh, H. Albright, M.S. Galliher, C. Schindler*

ORGN 619. Methylation and ethoxylation strategies employing non-hazardous, stable reagents. *M. Bartlett, B. Habtesellassie, J. Lee, U. Gaffney, D.J. Gorin*

ORGN 620. Synergistic catalysis: Enantioselective ring expansion and ring contraction, merging Pd(0) and secondary amino catalysis. *M. Meazza, R. Rios-Torres*

ORGN 621. Fe(II)-polypyridine/imino-pyridine complexes as efficient catalysts for the conversion of CO₂ into cyclic carbonate. *S. Eun Young, J. Shin, E. Kang*

ORGN 622. Synthesis of polycyclic (hetero)aromatics from amino substrates. *D. Lee, E. Cho*

ORGN 623. Synthesis of heteroaryl amines through Cu-catalyzed electrophilic amination of *O*-benzoylhydroxylamines with heteroarenes. *S. Lee, Y. Lee*

ORGN 624. Visible-light promoted isomerization of vinylnitrones to vinyloxaziridines. *G. Moura-Letts, A. Zinsky, B. Austin*

ORGN 625. Selective Friedel-Crafts alkylation of indoles with trichloroacetimidates. *T. Suzuki, A.A. Adhikari, J.D. Chisholm*

ORGN 626. Diastereoselective synthesis of complex carbocycles from substituted vinylnitrones. *G. Moura-Letts, L. Tumbelty, B. Austin*

ORGN 627. Diazo-Claisen rearrangements of substituted diaziridines for the synthesis of benzodiazepines. *G. Moura-Letts, D. Almond, N. Cinti*

ORGN 628. Novel synthesis of fused-cyclic ethers via cycloaddition reactions of aldehydes and substituted cyclopropanes. *G. Moura-Letts, J. Horgan*

ORGN 629. Norrish-Yang cyclizations of beta-ketoformamides: A photochemical approach to 3-hydroxy-beta-lactams. *J.L. Markley, T. Morse, N.P. Rath, T.A. Wenczewicz*

ORGN 630. Intramolecular tandem Diels-Alder/Pauson Khand reaction of acyclic tetraynes for the one-pot preparation of tetracyclic steroid cores. *K. Barnett, E. Xu, K.M. Shea*

ORGN 631. Shapiro elimination/epoxidation-based strategy for the synthesis of cage molecule building blocks. *L. Richert, L. Sanchez*

ORGN 632. Synthesis of 2-amino-4-hydroxybenzoic acid derivatives via biomimetic polyketide aromatization of β,δ -diketo-oxazinones. *S.R. Goldstein, A.G. Barrett*

ORGN 633. Using flow chemistry to enable the regio- and enantioselective intermolecular Buchner ring expansion. *G.S. Fleming, A.B. Beeler*

ORGN 634. 1-Butyl-3-methylimidazol-2-ylidene borane: A readily-available, liquid N-heterocyclic carbene borane reagent. *D. Bolt, D.P. Curran*

ORGN 635. Selective formation of conjugated dienes by reductive coupling of allenylboronic acids and tosylhydrazones via homoallylboronic acid. *D. Wang, M. de Wit, K. Szabo*

ORGN 636. Ultrasound-assisted expeditious green synthesis of pyrano[2,3-c]pyrazoles. *D. Bandyopadhyay, M.K. Basquez*

ORGN 637. Catalyst/solvent/support/additive/promoter-free green synthesis of 5-methyl-thiazolidin-4-ones. *D. Bandyopadhyay, R. Elizondo*

ORGN 638. Boron-mediated metal-free multicomponent synthesis of amino acid derivatives in water. *K.M. Kossick, N.A. Petasis*

ORGN 639. Cationic cyclizations of alkylidene beta-ketoesters. *D. Parsons, A.J. Frontier*

ORGN 640. Development of alkyne di-functionalization methodology. *Y. Xing*

ORGN 641. Copper catalyzed homocoupling and heterocoupling of terminal alkynes. *M. Holganza, S. Elfarra, Y. Xing*

ORGN 642. Gold(I)-catalyzed synthesis of 2-arylthieno[3,2-b]pyridine-5(4H)-ones and studies toward a small-molecule fluorescent probe for vimentin. *D. Sung, B. Mun, H. Lee, J. Lee, Y. Lee, J. Lee*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B1

Total Synthesis of Complex Molecules

S. M. Silverman, Organizer

7:00 – 9:00

ORGN 643. Synthesis of a thiourea analogue of streptolidine lactam. *M. Dowgiallo, J. Kirby, R. Manetsch*

ORGN 644. Studies towards the total synthesis of anguidine. *D. Zhao, R. Manetsch*

ORGN 645. Total synthesis of isotopically-labeled cylindrospermopsin cyanotoxins. *J.L. Chen, A.S. Zakarian*

ORGN 646. Total synthesis of novel pleuromutilin antibiotics. *O. Goethe, X. Ma, Z. Wang, A. Heuer, S. Herzon*

ORGN 647. Development of a synthetic platform for (+)-sinefungin and analogues. *B.A. Wright, R.L. Policarpo, M. Shair*

ORGN 648. Total synthesis of protectin DX, a potent proresolving lipid mediator. *J. Dworak, G. Jagdmann, M. Van Zandt*

ORGN 649. Preparation of a preclinical candidate SQ1274. *Z. Huang, R.B. Williams, M. O'Neil-Johnson, S. Starks, G. Eldridge*

ORGN 650. Total synthesis and structure-activity relationship study of antiproliferative 4-epi-parviflorons. *Y. Miyajima, Y. Saito, M. Takeya, M. Goto, K. Goto*

ORGN 651. Synthesis of a model anthrone C-glycoside. *K. Ng, T.G. Minehan*

ORGN 652. Large scale synthesis of secalonic acids A and D for translational studies. *E. Nagy, L.E. Brown, J.A. Porco*

ORGN 653. Studies toward the total synthesis of poitediene. *S. Kim, S. Kim, R.M. Matunas, C. Lee*

ORGN 654. Studies towards the total synthesis of some pheromonal himachalene sesquiterpenes: Total synthesis of norhimachalene ketone. *M.A. Algalal, D.I. Magee*

ORGN 655. Synthesis of water-soluble CAAC catalyst ligands. *E. Kovacs, G. Turczel, M. Nagyházi, G. Szálas, P. Sághy, R. Tuba*

ORGN 656. Studies toward the synthesis of ent-artemisinin, a potential anti-malarial compound. *E. Steiner, M. Hejina, L. Sanchez*

ORGN 657. Synthetic studies on the seco-steroidal indene AQX-1125. *O. Dungan, B. Duffy, D.G. Effiong, S. Fernandes, W.G. Kerr, J.D. Chisholm*

ORGN 658. Asymmetric total synthesis of haplocleridamine. *M. Singha Roy*

ORGN 659. Progress toward the enantiospecific and stereospecific total synthesis of a number of sarpagine-related indole alkaloids including hystrixine and gelsempervines A and B. *M. Ahmed Khan, M. Rahman, J.M. Cook*

ORGN 660. Total synthesis of chrysamides A and B. *J. Parent, C. Berube, C. Carpentier, N. Voyer, P. Deslongchamps*

THURSDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 255

Molecular Recognition & Self-Assembly

R. D. Broene, Organizer

B. J. Cafferty, Presiding

8:40 ORGN 661. Deep cavitand receptor functionalized with Fe(II) and Mn(II) aminopyridine complexes for bioinspired oxidation catalysis. *A. Lledo Ponsati, D. Vidal, M. Costas*

9:00 ORGN 662. Self-assembly in a dissipative enzymatic reaction network. *A. Wong*

9:20 ORGN 663. Conformationally programmable chiral foldamers with compact and extended domains controlled by monomer structure. *Z. Lockhart, P.C. Knipe*

9:40 Intermission.

9:50 ORGN 664. Synthavidin self-assembly using solvatochromic squaraine dyes. *T.S. Jarvis, B.D. Smith*

10:10 ORGN 665. Self-assembly of tetra- and hexameric metallomacrocycles with Cd(II), Zn(II) and Fe(II) using a tris(terpyridine) ligand. *L. Wang*

10:30 ORGN 666. Sequential design, synthesis and self-assembly of 2D supramolecules and hierarchical self-assembly study. *B. Song*

10:50 ORGN 667. Self-assembly and robustness of a complex organic reaction network. *B.J. Cafferty, S.N. Semenov, A. Wong, L. Belding, G.M. Whitesides*

SECTION B

Boston Convention & Exhibition Center
Room 256

Total Synthesis of Complex Molecules

R. D. Broene, Organizer

J. A. Prieto, Presiding

9:00 ORGN 668. Asymmetric synthesis of 1,4-benzodioxane lignans. *L.I. Pilkington, D. Barker*

9:20 ORGN 669. Studies towards the synthesis of (-)-dolabriferol: Preparation of the alcohol and acid polypropionate moieties from a common epoxide precursor. *J.A. Prieto*

9:40 ORGN 670. Unified strategy for step-economical and enantioselective total synthesis of all members of chaetominine natural products. *P. Huang*

10:00 ORGN 671. Synthetic studies toward the antitumor antibiotic (+)-myrocin C. *M. Tomanik, C. Economou, S. Herzon*

10:20 ORGN 672. Approach towards total synthesis of spiroalcoridine A and B. *R.P. Singh*

10:40 ORGN 673. Towards the total synthesis of forasaminyl-griseusin A. *C. Liang, Q. Zhang, G. O'Doherty*

11:00 ORGN 674. Progress toward the synthesis of anticancer deoxypodophyllotoxin and antiviral F4-4 demonstrating the utility of an intramolecular styryl Diels-Alder reaction (ISDA). *D.I. Saavedra, B.D. Rencher, M. Andrus*

11:20 ORGN 675. Computer-assisted retrosynthetic planning as a tool for organic chemists. *Y. Zhou*

SECTION C

Boston Convention & Exhibition Center
Room 254A

Carbon Allotropes, Materials, Devices & Switches

R. D. Broene, Organizer

C. Chen, Presiding

8:00 ORGN 676. Synthesis and molecular switching of a dodecacationic [3]catenane consisting all mutually repulsive rings. *M. Nguyen, J.F. Stoddart*

8:20 ORGN 677. Singlet oxygen-cleavable alkoxyacenes. *V. Brega, C.T. Doherty, S.W. Thomas*

8:40 ORGN 678. Design, synthesis and characterization of an artificial molecular zipper. *M. Dumartin, M. Lipke, J.F. Stoddart*

9:00 ORGN 679. Exploration of a series of *trans*-2-(1,2,3-triazolyl)-cyclohexanols as potential conformational switches. *M.R. Ruyonga, V.V. Samoshin*

9:20 ORGN 680. Robust norbornadiene-quadracyclane-based molecular photoswitch. *B.E. Tebikachew, K. Moth-Poulsen*

9:40 ORGN 681. Quinoxalinophenanthrophenazine compounds in organic optoelectronic applications. *B.R. Kaafarani*

10:00 ORGN 682. One-pot Friedländer synthesis of tetra-aza-pentacenes: N-type small molecules for OPV applications. *N. Ukwitegetse*

10:20 ORGN 683. Synthesis and characterization of high triplet energy phenanthro-triazole and imidazole organic host materials for organic light emitting diode application. *M. Idris, C. Coburn, T. Fleetham, S. Forrest, M.E. Thompson*

10:40 ORGN 684. Development of structurally simple photochemical tools. *P. Wang, X. Ding*

11:00 ORGN 685. Tuning stimulus response and material properties in mechanochromic phenylene ethynylene oligomers. *S.A. Sharber, K. Shih, A. Mann, F. Frausto, T. Haas, M. Nieh, S.W. Thomas*

11:20 ORGN 686. Molecular design, synthesis and characterization of a spiro[pyran]-AlEgen multi-color changing material for sensors. *C. Chen, X. Meng, Y. Ma*

New Synthetic Tools & Analytical Methods for the Near-IR

Sponsored by ANYL, Cosponsored by ORGN

THURSDAY AFTERNOON

New Synthetic Tools & Analytical Methods for the Near-IR

Sponsored by ANYL, Cosponsored by ORGN

PHYS

Division of Physical Chemistry

M. Duncan, Program Chair

SUNDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 205A

Characterization, Detection & Application of Excitons in Chemistry

Excitons in Molecular Aggregates

S. J. Jang, Organizer

C. J. Bardeen, Organizer, Presiding

8:30 PHYS 1. Expanded theory of H- and J- molecular aggregates. *F.C. Spano*

9:00 PHYS 2. Harnessing molecular vibrations to probe exciton dynamics in organic optoelectronic materials. *J.B. Asbury*

9:30 PHYS 3. Utilizing excitons to study supramolecular nanostructures: In situ hierarchical self-assembling directed by counterions. *D. Eisele*

10:00 Intermission.

10:20 PHYS 4. Spectroscopic studies of exciton-coupled cyanine dimers (Cy3)2 in double-stranded DNA. *A.H. Marcus*

10:50 PHYS 5. Characterizing defect-induced excitons with coherent vibrational spectroscopy. *R.E. McAnally, J.A. Bender, L. Estergreen, R.M. Haiges, S.E. Bradforth, J. Dawlaty, S.T. Roberts, A. Rury*

11:10 PHYS 6. Characterization of excitons in organic small molecule materials. *H. Sun, T. Testoff, C.N. Bridgeman, T. Wang, X. Zhou, D. Liu, W. Li, L. Wang*

11:30 PHYS 7. Excitons in carotenoid assemblies. *S.J. Doyle, M.J. Tauber*

SECTION B

Boston Convention & Exhibition Center
Room 206A

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Small-Molecule Photophysics

Cosponsored by INOR

R. van der Veen, J. Vura-Weis, P. Wernet, Organizers, Presiding

8:30 PHYS 8. Photoinduced reaction mechanisms from time-resolved X-ray spectroscopy of ligand- and heteroatoms in ligands and organic molecules. *M. Ochmann, A. Hussain, I. van Ahnen, A. Cordones, K. Hong, J.H. Lee, R. Ma, K. Adamczyk, T.K. Kim, R.W. Schoenlein, O. Vendrell, N. Huse*

9:10 PHYS 9. Deconvoluting the isotropic and anisotropic ultrafast x-ray scattering of gas-phase N-methylmorpholine following Rydberg excitation. *B.M. Stankus, J.M. Ruddock, H. Yong, N. Zotev, D. Bellshaw, T.J. Lane, S. Boutet, M. Liang, S. Carbajo, J.S. Robinson, J.E. Koglin, A. Aquila, Y. Zhang, W. Du, N. Goff, Y. Chang, M.P. Minitti, A. Kirrander, P.M. Weber*

9:30 PHYS 10. Ultrafast x-ray molecular dynamics. *S.R. Leone*

PHYS

10:10 PHYS 11. Time-resolved gas-phase X-ray scattering to reveal transients in photodissociation reactions.

J.M. Ruddock, B.M. Stankus, H. Yang, W. Du, D. Bellshaw, N. Zotev, T.J. Lane, M. Liang, M.P. Minitti, S. Boutet, A. Kirrander, P.M. Weber

10:30 Intermission.

10:50 PHYS 12. Probing chemical dynamics by soft-X-ray transient absorption and XUV photoelectron spectroscopy.

H. Wörner

11:30 PHYS 13. Non-adiabatic coherent electron dynamics in iodine monobromide probed by XUV attosecond transient-absorption spectroscopy.

Y. Kobayashi, K. Chang, T. Zeng, M. Reduzzi, H. Timmers, M. Sabbar, D.M. Neumark, S.R. Leone

11:50 PHYS 14. Soft-X-ray spectroscopy of the amine group: Hydrogen bond motifs in alkylamine/alkylammonium acid-base pairs.

M. Ekimova, M. Kubin, M. Ochmann, J. Ludwig, N. Huse, P. Wernet, M. Odelius, E. Nibbering

12:10 PHYS 15. Femtosecond dynamics in the iodomethane cation investigated by XUV-IR pump-probe ion imaging.

L. Banares, G. Reitsma, M.L. Murillo-Sanchez, R. de Nalda, M. Corrales, S. Margji Poullain, J. Gonzalez-Vazquez, M. Vrakking, O. Kornilov

SECTION C

*Boston Convention & Exhibition Center
Room 205C*

Electrochemical Interfaces

O. Borodin, L. Meda, *Organizers*
G. Yushin, *Organizer, Presiding*
K. Edstrom, *Presiding*

8:30 Introductory Remarks.

8:35 PHYS 16. Electrochemical control of interfacial stability.

M.Z. Bazant

9:15 PHYS 17. Forming interphases in aqueous, non-aqueous and hybrid electrolytes.

K. Xu

9:55 PHYS 18. The electrical double layer and stability window of water-in-salt electrolytes.

M. McEldrew, M.Z. Bazant

10:15 PHYS 19. Designing hybrid materials with carbon network to improve the electrochemical performance of Li (Na)-ion batteries.

Y. Yu

10:35 Intermission.

10:50 PHYS 20. X-ray microtomography studies of the lithium-metal-block copolymer interface during cycling.

N.P. Balsara

11:30 PHYS 21. High-rate energy storage in MXenes with nanoconfined fluids.

T. Mathis, X. Wang, Y. Gogotsi

12:10 PHYS 22. Development of nanoscale absorption spectroscopy in water at room temperature using optical tweezers force detection.

A. Parobek, J. Black, M. Kamenetska, Z. Ganim

SECTION D

*Boston Convention & Exhibition Center
Room 205B*

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, *Organizers, Presiding*

8:30 PHYS 23. High-accuracy quantum chemical methods for kinetics: Some recent developments.

J.F. Stanton

9:05 PHYS 24. Excitonic triplet-triplet coupling in chromophore dimers.

L.V. Slipchenko, S. Savikhin

9:40 PHYS 25. Extrapolations in electronic structure and dynamics with global potentials for small carbon clusters at the focal point.

A.A. Varandas

10:00 Intermission.

10:20 PHYS 26. First-principle renormalization group methods for multiple potential energy surfaces.

F.A. Evangelista, C. Li, J.B. Schriber

10:55 PHYS 27. Accurate interpolation of potential energy curves for bond breaking.

D. Goodson

11:15 PHYS 28. AUTOSURF: A code for automated construction of potential energy surfaces.

E. Quintas Sanchez, R. Dawes

11:35 PHYS 29. PolyMLR: An analytic model for polyatomic potentials with fewer unphysical parameters: Application to CO₂.

N. Dattani

SECTION E

*Boston Convention & Exhibition Center
Room 206B*

Information Theory & Dynamics: From Elementary Processes to Systems Chemistry: Symposium in honor of Raphael Levine

T. J. Martinez, *Organizer*
S. Kais, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 PHYS 30. Chemical stereodynamics: Retrospect and prospect.

D. Herschbach

9:05 PHYS 31. Adventures in cold chemistry.

R.N. Zare, N. Mukherjee, W.E. Perreault

9:35 PHYS 32. Conditional analytic solvability of the quantum pendulum eigenproblem.

B. Friedrich

10:05 Intermission.

10:35 PHYS 33. Ab initio potential energy surfaces and dynamics for sustainable chemistry.

E.A. Carter

11:05 PHYS 34. Understanding the complexity of chemistry in the atmosphere: New problems and challenges.

J.S. Francisco

11:35 PHYS 35. Information theory analysis and molecular dynamics simulations for gunshot residue particles.

T. Raz-Nahum, Y. Hassin, N. Cohen, D. Gohberg

SECTION H

*Boston Convention & Exhibition Center
Ballroom East - Theater 1*

Strong Field Chemistry

W. Li, H. B. Schlegel, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 PHYS 36. Controlling and imaging molecules inside helium nanodroplets with laser pulses.

H. Stapelfeldt

9:15 PHYS 37. Strong field coherent control in chemistry.

T. Seideman, B. Ashwell, S. Ramakrishna

9:55 Intermission.

10:10 PHYS 38. Molecules under strong laser fields: Shaping ultrafast photodissociation dynamics and stereodynamics.

L. Banares, M. Corrales, R. de Nalda

10:50 PHYS 39. Ultrafast hydrogen migration in hydrocarbon molecules and strong field high-resolution spectroscopy.

K. Yamanouchi

11:30 PHYS 40. Employing electronic structure and dynamics calculations to interpret weak and strong field ionization pump probe experiments.

S. Matsika

SECTION I

*Boston Convention & Exhibition Center
Room 203*

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

M. Dantus, D. Zhong, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 PHYS 41. Decrypting of the ultrafast and fast deactivation processes in perovskite/QDs hybrid materials.

P. Galar, T. Ngo, M. Gutierrez, I. Mora Sero, A. Douhal

9:50 PHYS 42. Imaging carrier diffusion lengths on materials surfaces using 4D electron microscopy.

O. Mohammed

10:25 Intermission.

10:40 PHYS 43. Pushing the frontiers of DNA chemistry: Structure, dynamics, and function.

M. Zewail-Foote

11:20 PHYS 44. Dynamics of excited electronic states in silver(I) complexes with DNA nucleobases and their self-assembled nanostructures.

J.A. Snyder, A.P. Charnay, B. Kohler

11:55 PHYS 45. Probing the binding interactions of [Ru(phen)₂dppz]²⁺ with G-quadruplex DNA by transient emission and absorption spectroscopy.

H. Su

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL⁺, COLL and PHYS⁺

SUNDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 205A*

Characterization, Detection & Application of Excitons in Chemistry

Excitons in Light Harvesting Complexes & Photovoltaic Devices

C. J. Bardeen, *Organizer*
S. J. Jang, *Organizer, Presiding*

1:30 PHYS 46. Novel spectroscopic probes of excitonic structure and dynamics in photosynthetic systems.

B. Rolczynski, S. Yeh, P. Navotnaya, L. Lloyd, A. Ginzburg, H. Zheng, M. Allodi, J. Otto, K. Ashraf, A. Gardiner, R. Cogdell, S. Kais, G.S. Engel

2:00 PHYS 47. Engineered excitonic materials on programmable scaffolds.

J. Banal, Y. Vyborna, W. Chen, S. Hart, L. Markova, T. Kondo, W. Bricker, T.R. Shepherd, R. Veneziano, R. Haner, G. Schlau-Cohen, M. Bathe

2:20 PHYS 48. Probing photoinitiated processes of photosystem I and light harvesting chromophores through two-dimensional electronic spectroscopy.

J.M. Anna

2:50 PHYS 49. Vibronic coherence in photosynthesis?

D. Bennett, S. Blau, C. Kreisbeck, A. Aspuru-Guzik

3:10 Intermission.

3:30 PHYS 50. Molecular excitons.

G.D. Scholes

4:00 PHYS 51. Probing structure and dynamics of a confined nanoscale excitonic system by high-sensitivity time-resolved circular dichroism spectroscopy.

S. Savikhin, V. Stadnytski, Z. Mitchell, G.S. Orf, R.E. Blankenship, L.V. Slipchenko, Y. Kim

4:20 PHYS 52. Monitoring free carrier emergence in hybrid lead halide perovskites with 10 fs resolution.

T. Ghosh, S. Elboher, L. Etgar, S. Ruhman

4:50 PHYS 53. Using bridge oxidation to control electronic coupling and photodynamics in covalent chromophore dimers.

C. Cruz, J. Yuan, C. Climent, N. Tierce, P. Christensen, D. Casanova, M. Wolf, E.L. Chronister, C.J. Bardeen

SECTION B

*Boston Convention & Exhibition Center
Room 206A*

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Biological Applications

Cosponsored by INOR
R. van der Veen, J. Vura-Weis, P. Wernet, *Organizers*
J. D. Spence, *Presiding*

1:30 PHYS 54. Activating metal sites for biological electron transfer.

E.I. Solomon

2:15 PHYS 55. Light, molecules, action: Ballistic excited state dynamics of cobalamins revealed by polarized fs-XANES.

R.J. Sension

3:00 PHYS 56. Ultrafast photophysics of coordination complexes with tabletop XANES.

E. Ryland, J. Vura-Weis

3:20 Intermission.

3:40 PHYS 57. Ultrafast reaction pathways in a metalloprotein revealed by optical polarization selected X-ray transient absorption spectroscopy and quantum mechanical calculations.

M. Shelby, D. Hayes, P.J. LeStrange, H. Lemke, D. Zhu, X. Li, L.X. Chen

4:25 PHYS 58. Taking snapshots of reaction intermediates in metalloenzymes and catalysts at X-ray free electron lasers.

J. Kern, F. Fuller, R. Chatterjee, S. Gul, M. Kubin, R. Mitzner, U. Bergmann, P. Wernet, V.K. Yachandra, J. Yano

SECTION C

*Boston Convention & Exhibition Center
Room 205C*

Electrochemical Interfaces

L. Meda, G. Yushin, *Organizers*
O. Borodin, *Organizer, Presiding*
Y. Gogotsi, *Presiding*

1:30 PHYS 59. Surface reactivity of Li-ion intermetallic electrodes in organic carbonate electrolyte.

R. Kostecki, I. Hasa, A. Haregewoin, L. Zhang, P. Ross

2:10 PHYS 60. Reactivity descriptor for the oxide-electrolyte interface on positive electrodes in Li-ion batteries.

L. Giordano, P. Karayaylali, Y. Yu, Y. Katayama, F. Maglia, S. Lux, Y. Shao-Horn

2:30 PHYS 61. Effect of electrolyte composition on the solid electrolyte interface (SEI) and electrochemical cycling of lithium metal anodes.

B.L. Lucht, Z. Brown, S. Jurng

3:10 Intermission.

3:25 PHYS 62. State of the art knowledge about interfaces and interphases in lithium and sodium batteries.

K. Edstrom, R. Younesi

4:05 PHYS 63. Imaging electrochemistry in real time by nonlinear photothermal reflectance microscopy.

C. Zong, B. Ren, J. Cheng

4:25 PHYS 64. Isolating the impact of structure and surface chemistry in lithium ion batteries.

V. Wood

5:05 PHYS 65. Theory of mixed ion-electron transfer kinetics in concentrated solutions and solids.

D. Fraggedakis, M. McEldrew, R.B. Smith, Y. Krishnan, P. Bai, M.Z. Bazant

SECTION D

Boston Convention & Exhibition Center
Room 205B

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, *Organizers*

F. A. Evangelista, L. V. Slipchenko, *Presiding*

1:30 PHYS 66. Photochemical dynamics. *D.G. Truhlar*

2:05 PHYS 67. Novel approaches to nonadiabatic molecular dynamics. *O.V. Prezhdo*

2:40 PHYS 68. Rigorous trajectory-based methods for simulating nonadiabatic dynamics. *C.C. Martens*

3:00 PHYS 69. On the exact factorization equations and quantum-classical approximations. *G. Gossel, F. Agostini, N. Maitra*

3:20 Intermission.

3:40 PHYS 70. Theoretical description of nonadiabatic events in photon and electron driven processes. *S. Matsika, M. Fennimore, T. Karsili*

4:15 PHYS 71. Modeling conical intersections in adiabatic potentials and their role in surface hopping dynamics. *B.R. Galvão*

4:35 PHYS 72. 3-D potential energy surfaces on the excited states manifold of norbornadiene-quadricyclane. *A. Valentini, S. van den Wildenberg, F. Remacle*

4:55 PHYS 73. Light-matter interactions in optical cavities beyond the classical Maxwell description. *N. Hoffmann, A. Kelly, C. Schaefer, H. Appel, N. Maitra, A. Rubio*

SECTION E

Boston Convention & Exhibition Center
Room 206B

Information Theory & Dynamics: From Elementary Processes to Systems Chemistry: Symposium in honor of Raphael Levine

S. Kais, T. J. Martinez, *Organizers*

J. S. Francisco, *Presiding*

1:30 PHYS 74. Understanding and improving membrane protein expression in cells. *T.F. Miller*

2:00 PHYS 75. Cyclic cell state transition is associated with the adaptive resistance to BRAF inhibition in melanomas. *Y. Su, X. Lu, G. Li, L. Robert, A. Ng, M. Xue, A. Ribas, D. Baltimore, R. Levine, W. Wei, J.R. Heath*

2:30 PHYS 76. Watching a dissociating molecule sample its available phase space. *A. Stolow*

3:00 PHYS 77. Information and mechanistic patterns of hydrogen oxidation. *S. Nicholson, J.R. Green*

3:20 Intermission.

3:40 PHYS 78. Shannon entropy and tensor networks: Large scale data compression methods for quantum nuclear dynamics simulations. *S.S. Iyengar*

4:10 PHYS 79. Kullback-Leibler information entropy associated with nonequilibrium Kappa distributions from the Fokker-Planck equation and the relationship to Tsallis entropy. *B. Shizgal*

4:40 PHYS 80. Algebraic approach to quantum nuclear dynamics on a grid. *K.G. Komarova*

SECTION G

Boston Convention & Exhibition Center
Room 204B

New Spectroscopic Techniques for Astrochemistry**Astrochemical Challenges & Opportunities**

M. McCarthy, *Organizer*

K. N. Crabtree, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 PHYS 81. Cavity-enhanced millimeter and submillimeter spectroscopy as a probe of reaction dynamics. *S.L. Widicus Weaver, K. Roenitz, C. Wright, H. Bunn, C. Powers, K. Yocum*

2:15 PHYS 82. "Grötthuss-like" proton relays in anomalous carbocations dictate spectroscopy, stability and mechanisms: Case studies on small and medium sized non-classical hydrocarbons along with deuterated counterparts. *S.S. Iyengar*

2:35 PHYS 83. Photoelectron-photoion coincidence spectroscopy for laboratory astrochemistry: VUV Photodynamics of radicals, PAHs, sulfur containing compounds and other peculiar molecules. *H.R. Hrodmarsson, G. Garcia, L. Nahon*

2:55 Intermission.

3:25 PHYS 84. Computing rotational, rovibrational, and vibrational spectra for astronomical observations: high accuracy line lists for high temperatures, limited line lists for biosignature molecules, and PAH emission spectra. *T.J. Lee*

4:05 PHYS 85. Utilizing tunable vacuum ultraviolet light for isomer specific detection of complex organic molecules from astrophysical ice analogues: The hydrocarbon chemistry of interstellar ices. *M. Abplanalp, S. Göbi, R. Kaiser*

4:25 PHYS 86. Developments in high-resolution spectroscopy of Rydberg states of small molecules. *T. Barnum, J. Jiang, R. Field*

SECTION H

Boston Convention & Exhibition Center
Ballroom East - Theater 1

Strong Field Chemistry**Higher Harmonic Generation**

W. Li, H. B. Schlegel, *Organizers*

M. Dantus, F. Remacle, *Presiding*

1:30 PHYS 87. High harmonic generation in chiral media: from chiral discrimination to ultrafast imaging of molecular chirality. *D. Ayuso*

2:10 PHYS 88. High harmonic & attosecond spectroscopy as atomic and molecular probes. *L. Dimauro*

2:50 PHYS 89. Role of the super atom molecular orbital (SAMO) electronic states in the strong field photoionization of fullerenes. *B. Mignolet, F. Remacle*

3:10 Intermission.

3:20 PHYS 90. Ionization-triggered attosecond charge migration. *A. Bruner, S. Hernandez, A. Sissay, P. Abanador, M. Gaarde, K. Schafer, K. Lopata*

4:00 PHYS 91. Circularly polarized molecular high order harmonics: Generation and applications in attosecond science. *A.D. Bandrauk*

4:40 PHYS 92. Molecules in extreme rotational states made with strong optical fields: Transient spectroscopy of high-J molecules made in an optical centrifuge. *A.S. Mullin*

SECTION I

Boston Convention & Exhibition Center
Room 203

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

M. Dantus, *Organizer*

D. Zhong, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 PHYS 93. Proton transfer by carbonic acid: Charge transfer and proton relay. *J.T. Hynes, S. Daschkraborty, P.M. Kiefer, D. Pines, E. Pines*

2:15 PHYS 94. Ion effect on hydrogen bonding network in water. *W. Zhuang*

2:50 PHYS 95. Reaction dynamics of Claisen rearrangement simulated in different solvent. *Y. Gao, J. Zhang, Y. Lei*

3:25 Intermission.

3:40 PHYS 96. Ultrafast x-ray stimulated Raman spectroscopy and diffraction of molecules and molecular chirality. *S. Mukamel, J. Rouxel, K. Bennett, M. Kowalewski, D. Cho*

4:20 PHYS 97. Watching reacting molecules by femtosecond X-ray liquidography. *H. Ihee*

4:55 PHYS 98. Molecules at high X-ray intensity: Challenges for theory. *R. Santra*

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL², COLL and PHYS²

MONDAY MORNING**SECTION A**

Boston Convention & Exhibition Center
Room 205A

Characterization, Detection & Application of Excitons in Chemistry**Spatio-Temporal Exciton Dynamics**

C. J. Bardeen, S. J. Jang, *Organizers*

J. Neaton, *Presiding*

8:30 PHYS 99. New spatiotemporal approaches to follow ultrafast exciton migration at the nanoscale. *S. Penwell, L. Ginsberg, R. Noriega, M. Delor, N.S. Ginsberg*

9:00 PHYS 100. Spatial imaging of the molecular structures and energetics associated with singlet fission within single microcrystals using 2D white light and transient absorption microscopy. *A. Jones, N. Kearns, J. Ho, J. Flach, M.T. Zanni*

9:20 PHYS 101. Exciton dynamics and spectra of organic semiconductors. *J. Cao*

9:50 PHYS 102. Discovery and room-temperature ultrafast manipulation of strongly bound excitons in anatase TiO₂. *E. Baldini, A. Dominguez, T. Palmieri, L. Chiodo, M. Palumbo, P. Ruello, A. Rubio, M. Chergui*

10:10 Intermission.

10:30 PHYS 103. Coherence and energy transfer in conjugated chromophores. *S. Tretiak*

11:00 PHYS 104. Exciton dynamics in 2D materials. *W.A. Tisdale*

11:20 PHYS 105. High-dimensional quantum dynamics of exciton migration and dissociation in organic materials: Coherence, confinement and disorder. *I. Burghardt*

11:50 PHYS 106. Ultra-fast coherent energy transport in organic photovoltaic materials measured at nanoscale. *T.G. Goodson*

SECTION B

Boston Convention & Exhibition Center
Room 206A

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering**Spin Crossover & Transition Metal Photophysics**

Cosponsored by INOR

R. van der Veen, J. Vura-Weis, P. Wernet, *Organizers*
G. A. Vanko, *Presiding*

8:30 PHYS 107. Ultrafast X-ray laser characterization of electronic excited states in first row transition metal complexes. *K. Gaffney, K. Kjaer, A. Cordones, K. Kunnus*

9:10 PHYS 108. Fingerprints of electronic, spin and structural dynamics from resonant inelastic soft x-ray scattering in transient photo-chemical species. *J. Norell, R. Jay, M. Hantschmann, S. Eckert, M. Guo, K. Gaffney, P. Wernet, M. Lundberg, A. Föhlisch, M. Odelius*

9:30 PHYS 109. Ultrafast X-ray spectroscopy of transition metal compounds relevant for catalysis: a study case of a high-valent Fe complex. *W. Gawelda, T. Assefa, A. Britz, M. Diez, D. Khakhulin, A. Galler, J. Torres-Alacan, P. Voehringer, C. Bressler*

10:10 Intermission.

10:30 PHYS 110. Visualizing Au-Au bond formation in solution with femtosecond X-ray scattering. *S. Adachi*

11:10 PHYS 111. Coherent structural dynamics observed with femtosecond Fe K α and K β X-ray emission spectroscopies. *K. Kunnus, T. Harlang, K. Kjaer, M. Vacher, G. Vanko, K. Haldrup, T.B. van Driel, M. Reinhard, R. Hartscock, E. Biasin, M. Nielsen, V. Sundstrom, M. Lundberg, K. Wärnmark, K. Gaffney*

11:30 PHYS 112. Characterizing spin, structure, and frontier orbitals of photoexcited transition metal complexes with precision hard x-ray spectroscopy. *A. March*

SECTION C

Boston Convention & Exhibition Center
Room 205C

Electrochemical Interfaces

O. Borodin, L. Meda, G. Yushin, *Organizers*

K. Leung, Y. Qi, *Presiding*

8:30 PHYS 113. Progress in high-capacity gradient cathode materials for rechargeable lithium batteries. *Y. Sun*

9:10 PHYS 114. A reflection on the performance defining properties induced by the positive electrode – Electrolyte interface chemistry. *G. Amatucci, N. Pereira, N. Faenza, F. Badway*

9:50 PHYS 115. Electrochemical characteristics of layered cathode materials for lithium ion batteries: Surface, bulk behavior, and thermal properties. *C. Tian, M. Doeff*

10:10 Intermission.

10:25 PHYS 116. Interfacial chemistry of high-nickel layered oxide cathodes for lithium-ion batteries. *A. Manthiram*

11:05 PHYS 117. Molecular scale modeling insight into reduction and oxidation reactions in battery electrolytes. *O. Borodin, M. Olguin, T.P. Pollard, K. Leiter, J. Knap*

11:25 PHYS 118. The critical role of the interface/interphase in the aqueous and solid state electrolyte batteries. *C. Wang*

SECTION D

Boston Convention & Exhibition Center
Room 205B

PHYS

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, *Organizers*
S. Faraji, C. C. Martens, *Presiding*

8:30 PHYS 119. Unravelling spectral signatures of large amplitude vibrational motions: Vibrational spectroscopy of solvated ions. *A.B. McCoy, L.R. Madison, L. Dzugan, R.J. DiRisio, V. Lee, M. Huang*

9:05 PHYS 120. Modeling excited-state intersystem crossing with relativistic time-dependent electronic structure theory. *X. Li, D.B. Lingerfelt, J.J. Radler, J.M. Kasper*

9:40 PHYS 121. Fragment based ab initio molecular dynamics from simplectic decomposition of molecular structure: Post-Hartree-Fock accuracy at DFT cost for both Born-Oppenheimer and Car-Parrinello-like implementations. *S.S. Iyengar*

10:00 Intermission.

10:20 PHYS 122. Quantum nonadiabatic dynamics in the moving crude adiabatic representation. *A.F. Izmaylov*

10:55 PHYS 123. On-the-fly approach for the attosecond quantum dynamics on multiple electronic potentials of diatomic molecules. *K.G. Komarova*

11:15 PHYS 124. Assessment and comparison of ring polymer molecular dynamics and classical molecular dynamics: Molecular vibrations. *J. Zheng, M.J. Frisch*

11:35 PHYS 125. Understanding quantum yields in naphthalenes and boron-dipyrromethenes: Towards a prediction of non-radiative decay pathways in organic optoelectronic materials. *Z. Lin, A.W. Kohn, T.A. Van Voorhis*

SECTION E

*Boston Convention & Exhibition Center
Room 206B*

Information Theory & Dynamics: From Elementary Processes to Systems Chemistry: Symposium in honor of Raphael Levine

S. Kais, *Organizer*

T. J. Martinez, *Organizer, Presiding*

8:30 PHYS 126. Fitting the macro and micro together. *R.S. Berry*

9:00 PHYS 127. Quantum machine learning. *S. Lloyd*

9:30 PHYS 128. Quantum process tomography via multidimensional spectroscopy. *J. Yuen Zhou, D. Arias, D. Eisele, C. Steiner, J. Krich, M.G. Bawendi, K.A. Nelson, A. Aspuru-Guzik*

10:00 Intermission.

10:30 PHYS 129. Thermodynamic-like information theoretic surprisal analysis of genomic and metabolic data. *F. Remacle*

11:00 PHYS 130. Systematic generation of surprises: Application to chemicals with activity of interest. *I. Exman*

11:30 PHYS 131. Surprisal analysis based characterization of the temporal change of metabolic networks in yeast. *E. Askanazi*

SECTION G

*Boston Convention & Exhibition Center
Room 204B*

New Spectroscopic Techniques for Astrochemistry**New Experimental Methods**

K. N. Crabtree, *Organizer*

M. McCarthy, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 PHYS 132. Terrestrial progress toward infrared spectroscopy/detection of hydrocarbon radicals and molecular ions in the interstellar medium. *D.J. Nesbitt*

9:15 PHYS 133. Preparation, characterization and storage of water vapours highly enriched in its ortho-H₂O nuclear spin isomer. *P. Ayotte, J. Vermette, I. Braud, P. Turgeon, X. Michaut, G. Alexandrowicz*

9:35 PHYS 134. Sub-THz cavity enhanced absorption with a conventional confocal Fabry-Perot resonator. *K. Truitt, R. O'Neal, J. Bracewell, L. Duffy*

9:55 Intermission.

10:25 PHYS 135. High sensitivity microwave spectroscopy via cryogenic buffer gas cooling. *C. Perez, A. Steber, D. Patterson*

11:05 PHYS 136. AC Stark effect observed in a microwave-(sub)millimeter wave double resonance experiment. *K. Roenitz, B. Hays, C. Power, M.N. McCabe, H. Smith, S.L. Widicus Weaver, S.T. Shipman*

11:25 PHYS 137. Determination of the sign of the population difference in a two-level system by frequency-modulation spectroscopy. *J. Jiang, Z. Du, R. Field*

SECTION H

*Boston Convention & Exhibition Center
Ballroom East - Theater 1*

Strong Field Chemistry

W. Li, H. B. Schlegel, *Organizers*

B. Mignolet, T. Weinacht, *Presiding*

8:30 PHYS 138. Time-resolved excited state dynamics using strong laser fields. *A. Stolow*

9:10 PHYS 139. Laser-pulse driven electron dynamics and their control treated by wave function methods. *P. Saalfrank*

9:50 PHYS 140. Coherence as a driving force for the nuclear motion during non-equilibrium electron dynamics. *K.G. Komarova*

10:10 Intermission.

10:30 PHYS 141. Ultrafast control of photoinduced ring-currents in benzene. *A. Jaron-Becker, T. Joyce*

11:10 PHYS 142. Tunneling theory of molecules: Many-electron and nuclear-motion effects. *L. Madsen*

SECTION I

*Boston Convention & Exhibition Center
Room 203*

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

M. Dantus, D. Zhong, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 PHYS 143. From transition state dynamics of proteins to energy hopping in nanoclusters. *M. Gruebele*

9:15 PHYS 144. A potassium channel conundrum addressed with 2D IR spectroscopy. *M.T. Zanni*

9:50 PHYS 145. Molecular mechanism of light perception by UV-B photoreceptor UVR8. *X. Li, D. Zhong*

10:25 Intermission.

10:40 PHYS 146. Ultrafast electron-phonon interaction in emerging semiconductors. *X. Zhu*

11:20 PHYS 147. Time resolved probing of photo-induced phase transitions in charge density waves. *N. Gedik*

11:55 PHYS 148. Light-matter interactions in a plasmonic nanocavity. *Y. Luo*

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Sponsored by COMP, Cosponsored by PHYS

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL, COLL and PHYS*

MONDAY AFTERNOON**SECTION A**

*Boston Convention & Exhibition Center
Room 205A*

Characterization, Detection & Application of Excitons in Chemistry**Excitons in Quantum Dots & Emerging Materials**

C. J. Bardeen, S. J. Jang, *Organizers*

D. Turner, *Presiding*

1:00 PHYS 149. Strongly confined excitons and biexcitons in relation to quantum dot lasing. *V.I. Klimov*

1:30 PHYS 150. Photocatalytic [2+2] cycloaddition sensitized by triplet energy transfer from CdSe quantum dots. *C. Wang, Y. Jiang, E. Weiss*

1:50 PHYS 151. Biexciton generation and collection efficiency at quantum dot-oxide interfaces. *M. Bonn, H. Wang, E. Canovas*

2:10 PHYS 152. Turning on forbidden exciton transition in strongly confined CsPbBr₃ quantum dots by photoexcitation of bandedge exciton. *D.H. Son*

2:40 PHYS 153. Luminescence in carbon nanodots: The role of excitonic interactions between graphitic layers. *H. Lischka*

3:00 Intermission.

3:20 PHYS 154. Measuring the standard chemical potential for creation of an exciton. *J. Ryu, D. Baranov, S.D. Park, D.M. Jonas*

3:50 PHYS 155. Modulating dynamics of charge transfer in bodypy-carbazol donor-acceptor dyads. *E.R. Young, J. Strahan, S. Thayumanavan*

4:10 PHYS 156. Photobases: Excited-state C-O bond heterolysis in protic solvents. *K. Glusac*

4:40 PHYS 157. Layer-number dependence of energy transfer and excitonic coupling observed in monolayer and multilayer MoS₂ using ultrafast spectroscopy. *R. Wood, L. Lloyd, L. Wang, N.E. Williams, E. Bain, S. Xie, H. Gao, J. Park, G.S. Engel*

SECTION B

*Boston Convention & Exhibition Center
Room 206A*

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering**Spin Crossover & Transition Metal Photophysics**

Cosponsored by INOR

R. van der Veen, J. Vura-Weis, P. Wernet, *Organizers*
A. March, *Presiding*

1:00 PHYS 158. Element-specific view of molecular dynamics and future opportunities for ultrafast chemical science at X-ray FELs. *R.W. Schoenlein*

1:45 PHYS 159. Dynamics of local charge densities and metal-ligand covalency in iron complexes from femtosecond resonant inelastic soft X-ray scattering. *R.M. Jay, J. Norell, K. Kunnus, M. Lundberg, G. Gaffney, P. Wernet, M. Odelius, A. Föhlisch*

2:05 PHYS 160. Ultrafast X-ray spectroscopy of transition metal mixed valence complexes. *M.H. Khalil*

2:50 Intermission.

3:10 PHYS 161. Following electron and energy transfer through dinuclear complexes using ultrafast optical and multi-edge X-ray transient absorption spectroscopy. *D. Hayes, L. Kohler, R.G. Hadt, K.L. Mulfort, L.X. Chen*

3:30 PHYS 162. Probing the interplay between electronic and geometric structure in the ultrafast photophysics of transition metal-based chromophores. *J.K. McCusker*

4:15 PHYS 163. Revealing ultrafast structural dynamics of photo-induced bond formation process in a gold trimer complex by femtosecond X-ray solution scattering. *J. Kim, H. Ihee*

SECTION C

*Boston Convention & Exhibition Center
Room 205C*

Electrochemical Interfaces

O. Borodin, L. Meda, G. Yushin, *Organizers*

S. Meng, K. Thomas-Alyea, *Presiding*

1:00 Introductory Remarks.

1:05 PHYS 164. Interface studies with solid electrolytes. *B. Dunn, D. Ashby, C. Choi*

1:45 PHYS 165. Atomic scale simulations of interfacial phenomena in solid electrolytes. *D. Siegel*

2:25 PHYS 166. Stability and kinetics of the Li-LZO interface. *J. Sakamoto*

3:05 Intermission.

3:20 PHYS 167. Interface stability of lithium with lipon and lipon-like electrolytes. *N.J. Dudney, A. Westover, G. Veith, M. Chi*

4:00 PHYS 168. Understanding the interfacial phenomena for all-solid-state batteries (ASSB) comprising sulfide based solid electrolytes. *S. Meng*

SECTION D

*Boston Convention & Exhibition Center
Room 205B*

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, *Organizers*

A. F. Izmaylov, J. Zheng, *Presiding*

1:00 PHYS 169. Hot atom reactions involving CO₂: Comparing gas phase and gas-surface dynamics. *G.C. Schatz*

1:35 PHYS 170. Non-thermal kinetics and dynamics in combustion and atmospheric chemistry. *S.J. Klippenstein*

2:10 PHYS 171. Generalized Tolman activation energy method applied to non-thermal reactions. *H. Rafati, D.L. Thompson*

2:30 PHYS 172. Mode specificity in methane (CH₄D₂) dissociation on Ni(111). *E. High, H. Guo, B. Jackson, A. Utz*

2:50 Intermission.

3:10 PHYS 173. Including nuclear quantum effects in mixed-quantum classical non-adiabatic dynamics. *T.F. Miller*

3:45 PHYS 174. Several levels of theory for description of ozone-forming reaction. *A. Teplukhin, D. Babikov, B. Kendrick*

4:05 PHYS 175. Vibronic effects on the photoabsorption spectrum of 3-phenyl-2-propenylnitrile. *C.I. Viquez Rojas, K.M. Jawad, T.S. Zwier, L.V. Slipchenko*

4:25 PHYS 176. Inelastic collisions of Ar and O₃. *S. Sur, E. Quintas Sánchez, S.A. Ndengue, R. Dawes*

SECTION E

Boston Convention & Exhibition Center
Room 206B

Information Theory & Dynamics: From Elementary Processes to Systems Chemistry: Symposium in honor of Raphael Levine

S. Kais, T. J. Martinez, *Organizers*
B. Friedrich, *Presiding*

1:00 PHYS 177. Quantifying early time quantum decoherence dynamics through fluctuations. *B. Gu, I. Franco*

1:30 PHYS 178. Modelling the electron-nuclear dynamics induced by attosecond and femtosecond pulses in molecules with XFALMS. *B. Mignolet, B. Curchod, T.J. Martinez*

2:00 PHYS 179. Path integral Liouville dynamics with deep learning and information entropy. *J. Liu*

2:30 PHYS 180. Information anatomy of igniting hydrogen-oxygen mixtures. *R.A. Bone, J.N. Taylor, S. Nicholson, L.B. Newcomb, J.R. Green*

2:50 Intermission.

3:10 PHYS 181. Identifying dominant reaction pathways in molecular dynamics simulations. *H. Rafatiq, D.L. Thompson*

3:40 PHYS 182. In search of the new Hamiltonian: Fragment molecular orbital study of Förster resonance energy transfer between bacteriochlorophylls of Fenna-Matthews-Olson complex. *D.S. Kaliakin, Y. Kim, L.V. Slipchenko*

4:10 PHYS 183. Connecting bright and dark states through accidental degeneracy caused by lack of symmetry. *Z. Hu, G.S. Engel, S. Kais*

SECTION F

Boston Convention & Exhibition Center
Room 207

Materials in Extreme Environments

New High Pressure Phases

Cosponsored by COMP
A. Alexandrova, *Organizer*
E. Zurek, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 PHYS 184. Atomistic simulations of the impact of extreme conditions of pressure, shear, and temperature on structures and properties of materials. *W.A. Goddard, Q. An, Y. Ma*

1:35 PHYS 185. Single-bonded allotrope of nitrogen at high pressure: A combined theoretical and experimental study. *Y. Yao*

2:05 PHYS 186. Carbon-based clathrates. *T.A. Strobel, L. Zhu, G. Borstad, H. Liu, R. Cohen, R. Hoffmann*

2:35 Intermission.

2:50 PHYS 187. Pressure tuneable visible-range band gap in the ionic spinel tin nitride. *A. Salamat*

3:20 PHYS 188. The stability and the structures of Fe-I and Fe-Br compounds under Earth core condition. *M. Miao*

3:50 PHYS 189. Discovery of novel oxynitrides under high pressure. *M. Davari Esfahani, A. James, J.B. Parise, A. Oganov*

4:20 PHYS 190. High pressure as a synthetic tool for novel bismuth intermetallic compounds. *J.P. Walsh, S.M. Clarke, Y. Meng, S.D. Jacobsen, D.E. Freedman*

SECTION G

Boston Convention & Exhibition Center
Room 204B

New Spectroscopic Techniques for Astrochemistry

Optical & Infrared Astrochemistry: Large Molecules

K. N. Crabtree, M. McCarthy, *Organizers*
S. L. Widicus Weaver, *Presiding*

1:30 Introductory Remarks.

1:35 PHYS 191. Triple-resonance laser spectroscopy of protonated PAHs. *T.W. Schmidt, S. Kable, K. Naota, O. Krechkivska*

2:15 PHYS 192. Rotationally-resolved infrared frequency comb spectroscopy of the C₆₀ fullerene. *M.L. Weichman, P.B. Changala, T.Q. Bui, K. Iwakuni, J.F. Niedermeyer, K.F. Lee, M.E. Fermann, J. Ye*

2:55 Intermission.

3:25 PHYS 193. Interstellar PAHs: From ground to space, expanding spectroscopic frontiers. *F. Salama*

4:05 PHYS 194. Infrared spectra of protonated and hydrogenated corannulene (C₂₀H₁₀) and sumanene (C₂₁H₁₂) in solid para-hydrogen. *P. Sundararajan, M. Tsuge, Y. Lee*

4:25 PHYS 195. Validating the recent identification of interstellar C60+ using VLT UVES and a new method for high-signal-to-noise HST STIS spectroscopy. *M. Cordiner, N. Cox, R. Lallemand, F. Najarro, J. Cami, T. Gull, B. Foing, H. Linnartz, D. Lindler, C. Proffitt, P. Sarre, S. Charnley, J. Smoker, A. Fahrang, M. Eljajouri, E. Consortium*

SECTION H

Boston Convention & Exhibition Center
Ballroom East - Theater 1

Strong Field Chemistry

W. Li, H. B. Schlegel, *Organizers*
R. J. Levis, Z. Loh, *Presiding*

1:30 PHYS 196. Strong field double ionization of molecules. *T. Weinacht, S. Matsika, A. Zhao, C. Cheng*

2:10 PHYS 197. Strong field ionization with orbital angular momentum light beams measured with three-dimensional velocity imaging technique. *Q.L. Nguyen, K.M. Dorney, W.K. Peters, D.E. Couch, L.A. Wooldridge, W. Li, H. Kapteyn, M.M. Murnane*

2:30 PHYS 198. Disentangling strong field multi-electron dynamics with angular streaking. *W. Li*

2:50 Intermission.

3:10 PHYS 199. Role of electronic coherences in ultrafast non-equilibrium quantum dynamics in molecules induced by strong short optical pulses. *F. Remacle*

3:50 PHYS 200. Exploiting photonic reagents for the systematic exploration of molecular dissociative ionization. *H.A. Rabitz*

4:30 PHYS 201. Photoinduced norbornadiene to quadricyclane isomerization using strong short femtosecond pulses. *A. Valentini, S. van den Wildenberg, F. Remacle*

SECTION I

Boston Convention & Exhibition Center
Room 203

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

M. Dantus, D. Zhong, *Organizers, Presiding*

1:30 PHYS 202. Probing laser-induced demagnetization dynamics using femtosecond electron diffraction. *J. Cao*

2:05 PHYS 203. Imaging coherent structural dynamics with ultrafast electron microscopy. *D.J. Flannigan, D.R. Cremons, D.X. Du*

2:40 PHYS 204. Irreversible dynamics imaged in space and time. *B. Chen*

3:15 Intermission.

3:30 PHYS 205. Making molecular movies with MeV electrons. *X. Wang*

4:00 PHYS 206. Capturing nuclear wavepacket dynamics in molecular reactions with femtosecond electron diffraction. *M. Centurion*

4:30 PHYS 207. Direct imaging of ultrafast structural deformations in excited state neutral polyatomic molecules using laser-induced electron diffraction. *K. Amini, M. Sclafani, T. Steinle, J.R. Saavedra, C. Müller, L. Yue, A. Sanchez, B. Wolter, M.G. Pullen, M. Hammer, A. Le, T. Pfeiffer, M. Lewenstein, C. Lin, J. Ullrich, R. Moshhammer, J.G. Abajo, S. Gräfe, R. Moszynski, J. Biegert*

5:00 PHYS 208. Time-resolved single molecule photochemistry with a femtosecond scanning tunneling microscope. *S. Li, S. Chen, L. Wang, H. Wang, J. Li, R. Wu, W. Ho*

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Sponsored by COMP, Cosponsored by PHYS

Nanotechnology & Single Cell Analysis in Biology & Medicine: Next Frontier

Sponsored by ANYL, Cosponsored by BIOL, COLL, MPPG and PHYS

Technical Developments & Applications of Optical Chemical Imaging

Sponsored by ANYL, Cosponsored by BIOL[†], COLL and PHYS[†]

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

M. A. Duncan, *Organizer*

8:00 – 10:00

15, 37, 41, 50, 72, 83, 97, 128, 145, 172, 186, 194. See previous listings.

251, 264, 311, 329, 348, 357, 370, 416, 420, 426, 438, 455, 462, 480, 489, 501, 506, 512, 552, 558, 582. See subsequent listings.

TUESDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 205A

Characterization, Detection & Application of Excitons in Chemistry

Model Hamiltonian & First Principles Approaches

C. J. Bardeen, S. J. Jang, *Organizers*
J. Herbert, *Presiding*

8:30 PHYS 209. Excitons in nanotubular molecular aggregates: Inhomogeneity, localization, confinement, and transport. *J. Knoester*

9:00 PHYS 210. Electron-hole screening in excitonic and biexcitonic systems: A real-space perspective. *M. Bayne, J. Scher, P. McLaughlin, A. Chakraborty*

9:30 PHYS 211. Enhancing singlet-fission dynamics by suppressing destructive interference between charge-transfer pathways. *P. Huo*

9:50 PHYS 212. Molecular states coupling with surfaces continuum eigenstates: Electron dynamics beyond Fermi golden rule. *M. Pavanello*

10:20 Intermission.

10:40 PHYS 213. Single- and multi-exciton phenomena in organic materials from first principles. *J. Neaton*

11:10 PHYS 214. The utility and limitations of the Frenkel exciton-bath model. *S.J. Jang*

11:30 PHYS 215. Correlated quantum chemistry calculations of excitons in solids. *T.C. Berkelbach*

12:00 PHYS 216. Computing excitons in helical peptides and nanotubes. *J.D. Hirst*

SECTION B

Boston Convention & Exhibition Center
Room 206A

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Photocatalysis & Photovoltaics

Cosponsored by INOR

R. van der Veen, J. Vura-Weis, P. Wernet, *Organizers*
L. Baker, *Presiding*

8:30 Introductory Remarks.

8:40 PHYS 217. Revealing hole trapping in zinc oxide nanoparticles by time-resolved X-ray spectroscopy. *T. Penfold, J. Szlachetko, W. Gawelda, F. Santomaro, A. Britz, T. van Driel, L. Sala, S. Ebner, S. Southworth, G. Doumy, A. March, S. Lehmann, T. Katayama, M. Mucke, D. Iablonskiy, Y. Kumagai, G. Knopp, K. Motomura, T. Togashi, S. Owada, M. Yabashi, J. Rittmann, M. Nielsen, M. Pajek, K. Ueda, M. Chergui, R. Abela, C. Milne*

9:20 PHYS 218. Femtosecond X-ray spectroscopy of transition metals. *G.A. Vanko*

10:00 PHYS 219. Electron-hole recombination of water splitting photoanodes. *A. Ismail, Y. Uemura, F. de Groot*

10:30 Intermission.

10:45 PHYS 220. Probing the dynamics of reaction pathways on metal surfaces using femtosecond X-ray pulses. *J. LaRue*

11:25 PHYS 221. Small polaron formation in iron oxide nanoparticles: the effect of ligand field and morphology on formation rates. *I.J. Porter, S.K. Cushing, L.M. Carneiro, A. Lee, J.C. Ondry, J.C. Dahl, H. Chang, S.R. Leone*

11:45 PHYS 222. X-ray spectroscopy studies of long-lived charge separation and electronic structure in trinuclear μ -3-oxo-based metal-organic frameworks and complexes. *J.V. Lockard, L. Hanna, P. Kucheryavy*

SECTION C

Boston Convention & Exhibition Center
Room 205C

Electrochemical Interfaces

O. Borodin, L. Meda, G. Yushin, *Organizers*

A. Gross, Y. Qi, *Presiding*

8:30 PHYS 223. Battery modeling with solid electrolytes. *K. Thomas-Alyea*

9:10 PHYS 224. Chemo-mechanical degradation and optimization of solid electrolyte interphases in Li ion batteries. *B.W. Sheldon, W. Zhang, J.H. Cho, R. Kumar*

9:50 PHYS 225. Simulating electrochemical evolutions of interfaces/interphases in batteries, and modeling their potential dependences. *K. Leung*

10:30 Intermission.

PHYS

- 10:45 PHYS 226.** Designing artificial solid-electrolyte interphases for single-ion and high-efficiency transport in batteries. *L.A. Archer*
- 11:25 PHYS 227.** Interfacial chemistry in lithium metal and lithium sulfur batteries. *J. Liu*

SECTION D

*Boston Convention & Exhibition Center
Room 205B*

From Potential Energy Surfaces to Dynamics & Kinetics

- R. Dawes, A. Jasper, *Organizers*
C. Cavallotti, K. T. Kuwata, *Presiding*
- 8:30 PHYS 228.** Getting to the heart of combustion: The mysterious QOOH radical and its reactions with molecular oxygen. *H.F. Schaefer, K.B. Moore*
- 9:05 PHYS 229.** Successes and challenges in predicting combustion kinetics. *W.H. Green*
- 9:40 PHYS 230.** Accelerated reactive dynamics and automated reaction detection for ReaxFF. *F. Goumans, K. Bal, M. Döntgen, E. Neyts, K. Leonhard, O. Carstensen, A. Yakovlev, T. Trnka*
- 10:00** Intermission.

10:20 PHYS 231. Sum over histories representation for chemical kinetics. *R.T. Skodje, S. Bai*

10:55 PHYS 232. On-the-fly interpolations of quantum mechanical potentials and atomic forces incorporated into a massively parallel multilevel QM/MM simulation tool. *M.R. Salazar*

11:15 PHYS 233. Chemical mechanism and kinetics of cyclopentanone combustion: A theoretical and RMG approach. *S. Khaniche, M.S. Johnson, W.H. Green*

11:35 PHYS 234. Mechanism deduction from noisy chemical reaction networks. *J. Proppe, M. Reiher*

SECTION E

*Boston Convention & Exhibition Center
Room 206B*

Structural Photonics: Determining the Structural Influence on the Physical Properties of Photonic Materials

Plasmonics

- K. L. Knappenberger, A. Schwartzberg, *Organizers*
A. E. DePrince, *Organizer, Presiding*
P. Herbert, T. Zhao, *Presiding*
- 8:30** Introductory Remarks.
- 8:35 PHYS 235.** Morphology dependent near-field response in atomistic plasmonic nanocavities. *L. Jensen*
- 9:10 PHYS 236.** Optoelectronic performance of multimetallic nanoparticles synthesized via on-colloid lithography. *J. Millstone*
- 9:45** Intermission.
- 10:00 PHYS 237.** Spectroscopy and dynamics of surface plasmon polaritons in noble metal nanostructures. *G. Beane, T. Devkota, B. Brown, G.V. Hartland*
- 10:35 PHYS 238.** Quantum plasmonics. *P.J. Nordlander*
- 11:10 PHYS 239.** Plasmonic approaches for visualizing and controlling intercalation-driven phase transformations. *J. Dionne, F. Hayee, M. Vadai, D.K. Angell, K. Szytu*

SECTION F

*Boston Convention & Exhibition Center
Room 207*

Materials in Extreme Environments

Superhard Materials & Materials Under the Influence of Radiation, Field & Temperature

- Cosponsored by COMP
A. Alexandrova, E. Zurek, *Organizers*
T. Strobel, *Presiding*
- 8:30 PHYS 240.** Exploring plastic and elastic deformations in ultra-hard transition metal borides using high pressure diffraction. *S.H. Tolbert*
- 9:00 PHYS 241.** Hardness of transition metal boride materials. *K.H. Bowen, T. McQueen, A. Alexandrova*
- 9:30 PHYS 242.** The charge density of hard materials. *M. Eberhart*
- 10:00** Intermission.
- 10:15 PHYS 243.** Inorganic materials discovery and crystal growth in supercritical fluids. *T. McQueen*
- 10:45 PHYS 244.** Dynamical bonding in metal borides: Ultra-hardness and mixed valency. *P.J. Robinson, A. Alexandrova*
- 11:15 PHYS 245.** High temperature surface chemistry and emission spectroscopy of individual nanoparticles. *B.A. Long, D.J. Rodriguez, C.Y. Lau, S.L. Anderson*

- 11:45 PHYS 246.** Determining characteristics of enzymes that can function in extreme environments by molecular dynamics simulations of extremophile enzymes. *Q. Huang, T. Ichiye*

SECTION G

*Boston Convention & Exhibition Center
Room 204B*

New Spectroscopic Techniques for Astrochemistry Optical & Infrared Astrochemistry: Small Molecules

- M. McCarthy, *Organizer*
K. N. Crabtree, *Organizer, Presiding*
- 8:30** Introductory Remarks.
- 8:35 PHYS 247.** Broad bandwidth laser frequency combs for terrestrial and astronomical spectroscopy. *S. Diddams*
- 9:15 PHYS 248.** Purified *para* and *ortho*-water for fundamental physics and chemical reactions. *J. Kupper*
- 9:35 PHYS 249.** Probing vibrationally excited states of astrophysically important species by stimulated emission pumping (SEP) spectroscopy. *N. Reilly*
- 9:55** Intermission.
- 10:25 PHYS 250.** Spectroscopy of an argon-oxygen covalent bond in the ArOH⁺ cation. *J.P. Wagner, D. McDonald II, M.A. Duncan*

10:45 PHYS 251. Accuracy of spectroscopic constants predicted by explicitly correlated methods. *M. Gronowski*

SECTION H

*Boston Convention & Exhibition Center
Ballroom East - Theater 1*

Strong Field Chemistry

- W. Li, *Organizer*
H. B. Schlegel, *Organizer, Presiding*
J. Kupper, *Presiding*
- 8:30 PHYS 252.** Probing spatial and spectroscopic structure information with femtosecond intense laser fields. *C. Lin*
- 9:10 PHYS 253.** Creating multiple wavepackets during intense field, polyatomic dissociation using the radical cation launch state. *R.J. Levis*
- 9:50 PHYS 254.** Partitioning method applied to the computation of ultrafast photoionization dynamics in small molecules induced by strong pulses. *S. Van den Wildenberg, B. Mignolet, R. Levine, F. Remacle*
- 10:10** Intermission.
- 10:30 PHYS 255.** Vibrational coherences and ultrafast dissociation dynamics of polyatomic molecules induced by intense laser fields. *Z. Loh*
- 11:10 PHYS 256.** Isotope effect in N₂ as a probe of quantum interference features in the nuclear dynamics of attosecond pumped molecules. *R.D. Levine*

SECTION I

*Boston Convention & Exhibition Center
Room 203*

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

- M. Dantus, D. Zhong, *Organizers, Presiding*
- 8:30** Introductory Remarks.
- 8:35 PHYS 257.** Femtochemistry at its finest: Structure, energy flow and dynamics in photodissociating molecules. *L. Banares, M.L. Murillo-Sanchez, S. Marggi Poullain, M. Corrales, J. Gonzalez-Vazquez*
- 9:15 PHYS 258.** Ultrafast dynamics of electrons in strong-field ionization of molecules. *J. Wu*
- 9:50 PHYS 259.** Capturing spectral diffusion on ultraslow timescales with two-color IR-IR spectroscopy of temperature controlled cluster ions. *M.A. Johnson*
- 10:30** Intermission.
- 10:45 PHYS 260.** Controlled molecules and chemical dynamics in the molecular frame. *J. Kupper*
- 11:20 PHYS 261.** The Friday voicemail, "You got it correct". *L. Dimaura*
- 11:55 PHYS 262.** Femtosecond time-resolved photoelectron spectroscopy: Femtochemistry of the excited state. *A. Stolow*

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

- Sponsored by COMP, Cosponsored by PHYS
- Technical Developments & Applications of Optical
Chemical Imaging**
- Sponsored by ANYL, Cosponsored by BIOL[†], COLL and PHYS[†]
- Structure & Function of 2D Materials**
- Sponsored by ANYL, Cosponsored by COLL and PHYS

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 205A*

PHYS Awards Symposium

- Cosponsored by PROF
M. A. Duncan, *Organizer, Presiding*
- 1:30 PHYS 263.** Controlled cluster formation and spectroscopic characterization of microsolvated model peptides. *E. Garand*
- 2:00 PHYS 264.** Proton dynamics, interfacial electric fields, and catalysis. *J. Patrow, J.R. Hunt, J. Dawlaty*
- 2:30 PHYS 265.** Nanoscale and ultrafast Raman spectroscopies. *R.R. Frontiera*
- 3:00** Intermission.
- 3:15 PHYS 266.** Enriching the computational chemistry repertoire for a wide-range of molecular interactions. *C. Corminboeuf*
- 3:45 PHYS 267.** Electron ratchets. *E.A. Weiss, O. Kedem, B. Lau, M.A. Ratner*
- 4:15 PHYS 268.** New tools yield new insights in reaction dynamics: Sliced imaging, roaming radicals and more. *A.G. Suits*
- 4:45 PHYS 269.** Introduction to accelerated molecular dynamics methods. *A.F. Voter*
- Computational Photocatalysis: Modeling of
Photophysics & Photochemistry at Interfaces**
- Sponsored by COMP, Cosponsored by PHYS
- Structure & Function of 2D Materials**
- Sponsored by ANYL, Cosponsored by COLL and PHYS

WEDNESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 205A*

Characterization, Detection & Application of Excitons in Chemistry

Excitons & Quantum Light

- C. J. Bardeen, S. J. Jang, *Organizers*
G. D. Scholes, *Presiding*
- 8:30 PHYS 270.** Distinguishing between many-body and single particle interactions with indistinguishable photons. *E.R. Bittner, C. Silva*
- 9:00 PHYS 271.** Solution-based single emitter spectroscopy: Probing linewidths and biexciton quantum yields of single perovskite nanocrystals. *H. Utzat, K. Shulenberger, O.B. Achorn, M. Nasilowski, T. Sinclair, M.G. Bawendi*
- 9:20 PHYS 272.** Excitons in the steady state: Dynamics induced by natural incoherent light. *P.W. Brumer*
- 9:50 PHYS 273.** Single chain studies of exciton migration and identity in conjugated polymers. *L. Rothberg, B. Martin, L. Wang, P. Wrona*
- 10:20** Intermission.
- 10:40 PHYS 274.** Nonlinear optical molecular spectroscopy with quantum light in microcavities. *M. Mukamel, K. Dorfman, F. Schlawin, Z. Zhang, M. Kowalewski, K. Bennett*
- 11:10 PHYS 275.** Theory of pump-probe spectroscopy for vibrational-polaritons. *R. Ribeiro, J. Yuen-Zhou*
- 11:30 PHYS 276.** Polariton-assisted remote energy transfer (PARET). *M. Du, L. Martínez-Martínez, R. Ribeiro, Z. Hu, V. Menon, J. Yuen Zhou*
- 12:00 PHYS 277.** Excited state proton transfer under electronic light-matter strong coupling. *D. Kizhmuri Parappuram, R. Deshmukh, L. Martínez-Martínez, J. Yuen-Zhou, E. Hohenstein, G. John, V. Menon*

SECTION B

*Boston Convention & Exhibition Center
Room 206A*

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Theory of Excited-State X-ray Spectra

- Cosponsored by INOR
R. van der Veen, J. Vura-Weis, P. Wernet, *Organizers*
F. de Groot, *Presiding*
- 8:30 PHYS 278.** First principles quantum dynamics for ultrafast X-ray spectroscopy. *T. Penfold*
- 9:10 PHYS 279.** Modeling X-ray absorption spectroscopy with TDDFT. *J.M. Kasper, P.J. Lestrangle, T.F. Stetina, X. Li*

9:30 PHYS 280. Multi-configurational quantum chemical simulations of core-level transitions: Enabling experimental investigations of ultrafast dynamical pathways in photochemical reactions. *M. Odelius*

10:10 PHYS 281. Bridging X-ray absorption spectra and nuclear quantum effects in the hydrogen bond network of liquid water. *Z. Sun, L. Zheng, M. Chen, M.L. Klein, X. Wu, F. Paesani*

10:30 Intermission.

10:50 PHYS 282. Probing local and ultrafast spectroscopies by coupled cluster methods. *S. Coriani*

11:30 PHYS 283. Signatures of nonadiabatic dynamics from time-resolved X-ray spectroscopies. *M. Schuurman*

11:50 PHYS 284. Simulating the ultrafast X-ray absorption spectroscopy of the hydrated electron. *W.J. Glover*

SECTION C

*Boston Convention & Exhibition Center
Room 205C*

Electrochemical Interfaces

O. Borodin, L. Meda, G. Yushin, *Organizers*
K. Thomas-Alyea, S. Trabesinger, *Presiding*

8:30 PHYS 285. Chemical trends in electrochemical energy storage: A computational perspective. *A. Gross*

9:10 PHYS 286. Understanding structural development of electrodeposited columnar lithium metal. *D. Steingart*

9:50 PHYS 287. Comparison of the interfacial reaction kinetics and plating morphology of lithium and magnesium anodes. *Y. Qi, Y. Li, Z. Liu, L. Chen*

10:30 Intermission.

10:45 PHYS 288. Direct proof of Oxidation-and-Transport Processes within Li-ion cells. *S. Trabesinger*

11:25 PHYS 289. Designing approaches for the controllable formation of two-dimensional heterointerface for electrochemical energy storage. *E. Pomerantseva*

SECTION D

*Boston Convention & Exhibition Center
Room 205B*

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, *Organizers*

F. Paesani, E. Quintas Sánchez, *Presiding*

8:30 PHYS 290. Collision models for use in master equation analysis of unimolecular reactions. *A. Matsugi*

9:05 PHYS 291. Coupling automation of single well rate constant estimation with the investigation of multiple well potential energy surfaces. *C. Cavallotti*

9:40 PHYS 292. Application of machine learning in variational transition state theory. *X. Chen, F. Goldsmith*

10:00 Intermission.

10:20 PHYS 293. Non-adiabatic quantum reactive scattering. *B. Kendrick*

10:55 PHYS 294. Muonium reactivity: Isotopic mass effects and challenges for theory in mu atom recombination kinetics studies in the gas phase. *D.G. Fleming*

11:15 PHYS 295. MCTDH computations of inelastic scattering and molecular spectroscopy for astrochemically relevant molecules. *S.A. Ndengue, R. Dawes, Y. Scribano, F. Gatti*

11:35 PHYS 296. Ultrafast light-induced coupled electronic-nuclear dynamics in the HCN and HNC isomers. *S. Van den Wildenberg, O. Roncero, B. Mignolet, F. Remacle*

SECTION E

*Boston Convention & Exhibition Center
Room 206B*

Structural Photonics: Determining the Structural Influence on the Physical Properties of Photonic Materials

Plasmonic/Semiconductor Applications

A. E. DePrince, A. Schwartzberg, *Organizers*

K. L. Knappenberger, *Organizer, Presiding*

P. Herbert, H. Zheng, *Presiding*

8:30 Introductory Remarks.

8:35 PHYS 297. Single nanoparticle spectroelectrochemistry for understanding locally catalyzed redox reactions at the nanometer scale. *S. Pan, Y. Wusimanjiang, Y. Ma*

9:10 PHYS 298. Localized plasmon resonance in undoped nano-meshed graphene as a potential sensor. *M. Desouky, M. Anisur, M. Alba, R. Singh Raman, M. Swillam, N. Voelcker, A. Kasry*

9:30 PHYS 299. New strategies for surface-enhanced sensing: N-heterocyclic cabenes as thiol replacements and hyper-Raman scattering. *J.P. Camden*

10:05 Intermission.

10:20 PHYS 300. Structural dynamics of the oxygen evolving complex unmasked by SERS microscopy.

A.J. Wilson, P.K. Jain

10:40 PHYS 301. At the interface of plasmonics and electronic structure theory. *G.C. Schatz*

11:15 PHYS 302. An electrostatic strategy for designing quantum dot-based nanopores. *C. Wang, A. Lee, E. Weiss*

SECTION F

*Boston Convention & Exhibition Center
Room 207*

Materials in Extreme Environments

Frontiers of Theory & Experiment for Creating & Probing Materials in Extreme Environments

Cosponsored by COMP

A. Alexandrova, E. Zurek, *Organizers*

A. Seel, *Presiding*

8:30 PHYS 303. Controlling deviatoric stress in the diamond anvil cell. *S. Dorfman, B. Brugman, E. Straley, J. Nicholas, C. Park, D. Popov*

9:00 PHYS 304. Deformation mechanisms at extreme conditions. *L. Miyagi*

9:30 PHYS 305. Calculating *ab initio* phase diagrams in AFLOW, a high-throughput materials science database.

P. Avery, C. Toher, S. Curtarolo, E. Zurek

10:00 Intermission.

10:15 PHYS 306. Stochastic GW for thousands of electrons and more. *D. Neuhauser, E. Rabani, V. Vleck*

10:45 PHYS 307. High-pressure thermo-mechanical properties in the AFLOW database. *C. Toher, C. Oses, P. Avery, E. Zurek, S. Curtarolo*

11:15 PHYS 308. Generating chemically accurate density functional tight binding models for glycine chemistry at ambient and extreme conditions. *M. Kroonblawd, N. Goldman*

SECTION G

*Boston Convention & Exhibition Center
Room 204B*

New Spectroscopic Techniques for Astrochemistry Solar System & Planetary Atmospheres

K. N. Crabtree, M. McCarthy, *Organizers*

S. Brünken, *Presiding*

8:30 Introductory Remarks.

8:35 PHYS 309. Spectroscopy and data science in the service of planetary remote sensing: the HITRAN and HITEMP databases. *I. Gordon, L.S. Rothman, R.V. Kochanov, Y. Tan, C. Hill*

9:15 PHYS 310. The ExoMol atlas of cool star and exoplanet molecular opacities. *J. Tennyson, S. Yurchenko*

9:35 PHYS 311. Novel metalorganic compounds revealed in meteorites. *A. Ruf, P. Schmitt-Kaplin*

9:55 Intermission.

10:25 PHYS 312. Infrared and near-infrared spectroscopy of hot molecules for exoplanets. *P.F. Bernath*

11:05 PHYS 313. Inelastic collisions dynamics of optically-centrifuged high-J molecules: Transient spectroscopy beyond the sudden regime. *A.S. Mullin*

11:25 PHYS 314. Pyrolysis and matrix-isolation FTIR spectroscopy for characterization of astrochemically significant radicals. *G.J. Brown, M.J. Ellis, L.R. McCunn*

SECTION H

*Boston Convention & Exhibition Center
Ballroom East - Theater 1*

Strong Field Chemistry

New Frontiers

W. Li, H. B. Schlegel, *Organizers*

A. Jaron-Becker, K. Lopata, *Presiding*

8:30 PHYS 315. Interatomic/intermolecular Coulombic decay and its exploration by free electron lasers. *L.S. Cederbaum*

9:10 PHYS 316. Ultrastrong coupling in optical microcavities. *L. Martínez-Martínez, R. Ribeiro, J. Campos-Angulo, J. Yuen Zhou*

9:50 PHYS 317. Computational simulation of molecules interacting with intense laser fields. *H.B. Schlegel*

10:10 intermission.

10:20 PHYS 318. Roaming chemical reactions under strong field excitation. *N. Ekanayake, M. Nairat, N. Weingartz, B. Farris, T. Severt, P. Feizollah, B. Jochim, B. Kaderiya, F. Ziaee, K. Borne, K.R. Pandiri, K. Carnes, D. Rolles, A. Rudenko, I. Ben-Itzhak, J.E. Jackson, B.G. Levine, M. Dantus*

11:00 PHYS 319. Theoretical approaches to the electronic and reaction dynamics of molecules induced by intense laser fields. *H. Kono, S. Ohmura, T. Kato, M. Kanno, K. Hanasaki*

11:40 PHYS 320. Strong-field ionization of laser-aligned molecules. *J. Kupper*

SECTION I

*Boston Convention & Exhibition Center
Room 203*

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

M. Dantus, D. Zhong, *Organizers, Presiding*

8:30 PHYS 321. Infrared spectrum of H₃⁺ as the probe for cosmic rays. *T. Oka*

9:05 PHYS 322. Ultrafast photochemistry on oxide surfaces and supported metal clusters. *T. Bernhardt*

9:40 PHYS 323. Ultrafast exciton dynamics and spatial coherence in 2D colloidal quantum wells. *T. Lian*

10:15 Intermission.

10:30 PHYS 324. Ultrafast mid-infrared spectroscopy of hydrated protons and proton transport in solvent mixtures. *F. Dahms, A. Kundu, M. Ekimova, F. Hoffmann, G. Bekjioğlu-Neff, B.P. Fingerhut, D. Sebastiani, E. Pines, E. Nibbering, T. Elsaesser*

11:00 PHYS 325. Femtosecond photochemistry of aqueous permanganate. *O. Haggag, P. Malakar, S. Ruhman*

11:30 PHYS 326. Femtosecond ion chemistry: Ultrafast intramolecular charge transfer in bifunctional molecular cations after photoionization. *P.J. Cheng, P. Yang, B. Lu*

12:00 PHYS 327. Internal conversion and intersystem crossing photophysics in UV-excited purine and 2-aminopurine by fs transient vibrational absorption spectroscopy. *H. Böhne, A. Nimmrich, R. Stellmacher, F. Temps*

Molecular Interactions of Synthetic Nanoparticles with Membranes

Sponsored by ANYL, Cosponsored by COLL and PHYS

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Sponsored by COMP, Cosponsored by PHYS

WEDNESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 205A*

Characterization, Detection & Application of Excitons in Chemistry

Sponsored by COMP, Cosponsored by PHYS

SECTION A

SECTION A

*Boston Convention & Exhibition Center
Room 205A*

Characterization, Detection & Application of Excitons in Chemistry

Singlet & Triplet Excitons: Spectroscopy

C. J. Bardeen, S. J. Jang, *Organizers*

A. H. Marcus, *Presiding*

1:30 PHYS 328. Singlet fission, exciton energies, and biexciton binding energies in the six-dimensional space of molecular dimer packing. *E.A. Buchanan, A. Zaykov, M. Jovanovic, Z. Havlas, R.W. Havenith, R. Broer, J. Michl*

2:00 PHYS 329. Linker dependent singlet fission in tetracene dimers. *J. Jay, N. Korovina, M.E. Thompson, S.E. Bradforth*

2:20 PHYS 330. Vibronic exciton modeling reveals how vibronic resonance and thermodynamics concertedly drive rapid singlet fission. *R. Tempelaar, D.R. Reichman*

2:40 PHYS 331. Triplet separation drives singlet fission after femtosecond correlated triplet pair production in rubrene. *D. Turner*

3:10 Intermission.

3:30 PHYS 332. Theoretical investigations of singlet fission: Mechanisms and molecules. *N. Ananth*

4:00 PHYS 333. Sensitization of crystalline silicon by singlet exciton fission in tetracene. *M. Einzinger, T. Wu, D. Congreve, M. Baldo*

4:30 PHYS 334. Ultrafast Dynamics in singlet fission process and its spectroscopic characterization. *L. Chen, M. Gelin, W. Domcke*

4:50 PHYS 335. Extracting energy from singlet fission materials. *S.T. Roberts, A.K. Le, J.A. Bender, D.E. Cotton, A.P. Moon*

SECTION B

*Boston Convention & Exhibition Center
Room 206A*

PHYS

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Frontiers in X-ray Methods

Cosponsored by INOR

R. van der Veen, J. Vura-Weis, P. Wernet, *Organizers*
D. Moonshiram, *Presiding***1:30** Introductory Remarks.**1:35 PHYS 336.** Exploring molecular reaction dynamics by ultrafast time-resolved gas phase X-ray scattering. *M.P. Minitti, J.M. Ruddock, B.M. Stankus, W. Du, H. Yang, N. Goff, D. Bellshaw, N. Zotev, M. Liang, S. Boutet, A. Kirrander, P.M. Weber***2:15 PHYS 337.** Radical characterization by ultrafast core-level spectroscopy. *Z. Yang, M. Ephstein, T. Xue, S.R. Leone***2:35 PHYS 338.** Femtosecond X-ray experiments: New observables for chemical dynamics studies. *C. Bressler***3:15** Intermission.**3:30 PHYS 339.** Quantum design of coherent X-rays. *T. Popmintchev***4:10 PHYS 340.** Stimulated X-Ray emission spectroscopy in transition metal complexes. *U. Bergmann***4:50 PHYS 341.** XFELs and biology. *J. Spence*

SECTION C

Boston Convention & Exhibition Center
Room 205C

Electrochemical Interfaces

O. Borodin, L. Meda, G. Yushin, *Organizers*A. Gross, J. Haskins, *Presiding***1:30 PHYS 342.** Synthetic chemistry approaches to electrode/electrolyte interface design. *P. Liu***2:10 PHYS 343.** Structure formation in electrolytes at electrified interfaces. *A. Latz, M. Schammer, B. Horstmann***2:50 PHYS 344.** Mediating reactions at the cathode in Li-O₂ batteries. *X. Gao, Y. Chen, J. Lee, P. Bruce***3:30** Intermission.**3:45 PHYS 345.** Predicting properties of complex interfaces for energy storage by integrating *ab initio* simulations with high-fidelity experiments. *B. Wood***4:20 PHYS 346.** EXPIRE: Extremely passive impact resistant electrolytes. *G. Veith***4:55 PHYS 347.** Investigations of battery interfaces and interphases with spatially-resolved tools. *K.J. Stevenson*

SECTION D

Boston Convention & Exhibition Center
Room 205B

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, *Organizers*C. Cavallotti, S. A. Ndengue, *Presiding***1:30 PHYS 348.** Excited-state dynamics in red fluorescent proteins. *S. Faraji***2:05 PHYS 349.** Modelling condensed phase reaction dynamics using empirical valence bond methods. *J.N. Harvey***2:40 PHYS 350.** Acceleration of biomolecular kinetics in Gaussian accelerated molecular dynamics. *Y. Miao***3:00 PHYS 351.** Experimental and theoretical characterization of an ultrafast water-soluble photochromic photoacid. *C. Aldaz, T.E. Wiley, P.M. Zimmerman, R.J. Sension***3:20** Intermission.**3:40 PHYS 352.** Achieving chemical accuracy across phases through many-body potential energy surfaces. *P. Bajaj, M. Riera, F. Paesani***4:15 PHYS 353.** High-level *ab initio* and statistical rate theory treatments of peroxy species in tropospheric chemistry. *K.T. Kuwata***4:35 PHYS 354.** Reactivity of hydrofluoropolyethers towards OH: A cost-effective implementation of multiconformer transition state theory. *L.P. Viegas***4:55 PHYS 355.** Chemistry of BrHgO•: Predicting atmospheric fate of a previously-unknown intermediate of mercury oxidation. *K. Lam, C.J. Wilhelmsen, A.C. Schwid, Y. Jiao, T.S. Dibble*

SECTION E

Boston Convention & Exhibition Center
Room 206B

Structural Photonics: Determining the Structural Influence on the Physical Properties of Photonic Materials

Bridging Plasmonics & Semiconductors

A. E. DePrince, K. L. Knappenberger, A. Schwartzberg, *Organizers*J. B. Asbury, P. Herbert, *Presiding***1:30** Introductory Remarks.**1:35 PHYS 356.** Hybrid plasmonic/quantum dot structures for tailored optical and quantum information properties. *S.K. Gray***2:10 PHYS 357.** Molecular and collective properties of monolayer-protected gold clusters revealed by nonlinear optical scattering spectroscopy. *S. Knoppe, K. Clays, T. Verbiest***2:45** Intermission.**3:00 PHYS 358.** Single-nanostructure electron dynamics studied using ultrafast correlated light and electron microscopy (UCLEM). *T. Zhao, K.L. Knappenberger***3:20 PHYS 359.** Control, spectroscopy, and optimization of hybrid photonic-plasmonic constructs. *R.H. Goldsmith, D.J. Masiello***3:40 PHYS 360.** Unique hot carrier distributions brought on scattering-mediated absorption. *N. Eldabagh, K.R. Fernando, J. Codrington, J. Foley***4:00 PHYS 361.** Coherent vibrational modes in Au₁₄₄(SC₈H₉)₆₀ revealed by state-resolved transient spectroscopy. *H. Zheng, K.L. Knappenberger*

SECTION F

Boston Convention & Exhibition Center
Room 207

Materials in Extreme Environments

Electrides

Cosponsored by COMP

A. Alexandrova, E. Zurek, *Organizers*C. Toher, *Presiding***1:30 PHYS 362.** Pressure-stabilized semiconducting electrides in alkaline-earth- metal subnitrides. *Y. Ma***2:00 PHYS 363.** Expanded metals and alkalides: The structural evolution of low oxidation state alkali metals in solution. *A. Seel, P.P. Edwards, N. Skipper***2:30 PHYS 364.** High pressure electrides: A chemical and physical theory. *R. Hoffmann***3:00** Intermission.**3:15 PHYS 365.** Ion pairing and stability of alkalides in organic solutions. *R. Riedel, D. Malko, A. Seel, H. Choi, A. Porch, P.P. Edwards, A.G. Barrett, A. Kucernak***3:45 PHYS 366.** Electron configuration and electronegativity of the atoms under compression. *M. Rahm, R. Cammi, N. Ashcroft, R. Hoffmann*

SECTION G

Boston Convention & Exhibition Center
Room 204B

New Spectroscopic Techniques for Astrochemistry

Kinetics & Dynamics

K. N. Crabtree, M. McCarthy, *Organizers*L. M. Ziurys, *Presiding***1:30** Introductory Remarks.**1:35 PHYS 367.** Rotational and vibrational action spectroscopy of reactive hydrocarbon cations: Intermediates in interstellar carbon chemistry. *S. Brünken, P. Juska, O. Asvany, B. Redlich, S. Schlemmer***2:15 PHYS 368.** Metastable atomic spectroscopy (MAS) of the N(²D) atoms using photofragment excitation spectroscopy (PHOFEX) and a slice imaging time of flight mass spectrometer (SITOF-MS). *Y.C. Chang, K. Liu, K. Kalogerakis, C. Ng, W.M. Jackson***2:35 PHYS 369.** High-resolution photoelectron imaging of C,P clusters: Towards their possible detection in the interstellar medium. *G. Kocheril, J.G. Czekner, L. Cheung, L. Wang***2:55** Intermission.**3:25 PHYS 370.** IR spectroscopy and ice kinetics. *K. Oberg, J. Bergner, I. Cooke***4:05 PHYS 371.** Chirped-pulse microwave spectroscopy in uniform supersonic flows: Isomer-specific branching in photodissociation of propargyl radical. *B. Broderick, N. Suas-David, N. Dias, A.G. Suits***4:25 PHYS 372.** Formation of HC₃N in space environments. *M. Fournier, B. Joalland, S. Cheikh Sid Ely, J. Guillemin, S.J. Klippenstein, I.R. Sims*

SECTION I

Boston Convention & Exhibition Center
Room 203

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

M. Dantus, D. Zhong, *Organizers, Presiding***1:30** Introductory Remarks.**1:35 PHYS 373.** Can coherence enhance function in chemical and biophysical systems? *G.D. Scholes***2:15 PHYS 374.** Coupling of multi-vibrational modes in bacteriochlorophyll a in solution observed with 2d electronic spectroscopy. *W. Yuxiang***2:50 PHYS 375.** Non-canonical photocycle initiation dynamics of the photoactive yellow protein: Shunting, skipping, and not following the rules. *D.S. Larsen, L.T. Mix, J. Riggs, M. Hara, I. van Stokkum, D. Morozov, G. Groenhof, W. Hoff***3:25** Intermission.**3:40 PHYS 376.** Ultrafast dynamics in amyloid fibrils. *F. Gai***4:20 PHYS 377.** Protonated water clusters in acetonitrile (n=1 to bulk water) using the CN stretch vibration as a spectator: Central role of the Zundel cation in the mechanism of proton transport in bulk-water. *E. Kazari, N. Kalish, D. Pines, E. Pines***4:55 PHYS 378.** Two-dimensional infrared spectroscopy of photoactive proteins and conjugated carbon sheets. *J. Wang*

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Sponsored by COMP, Cosponsored by PHYS

Molecular Interactions of Synthetic Nanoparticles with Membranes

Sponsored by ANYL, Cosponsored by COLL and PHYS

WEDNESDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

PHYS Poster Session

M. A. Duncan, *Organizer***6:00 – 8:00****PHYS 379.** X-Ray photoelectron spectroscopy preliminary studies on hexafluoroantimonate (V)-based ionic liquids containing rare earth triflates. *L.S. Longo Jr, P. Licence***PHYS 380.** Dynamics of carbon dioxide bound to MIL-53(Al) and PMMA studied via 2D-IR spectroscopy. *C.G. Pyles, A.M. Massari***PHYS 381.** Ultrafast spectroscopy of vibrational polaritons: Dynamics and photonics. *A.D. Dunkelberger, A.B. Grafton, K. Fears, R.B. Davidson, W. Ahn, B. Simpkins, J. Owrutsky***PHYS 382.** Photoprotective properties of a eumelanin building block: Ultrafast excited state relaxation dynamics in indole. *S. Ullrich, T. Godfrey, M. Biddle, H. Yu***PHYS 383.** Mapping the Rydberg state potential energy curves of methyl iodide using ultrafast time-resolved photoelectron spectroscopy. *B.M. Stankus, H. Hao, C. Huang, B.M. Rubenstein, P.M. Weber***PHYS 384.** Internal conversion and intersystem crossing pathways in UV excited uracils and their implications in prebiotic chemistry. *S. Ullrich, S. Mohamadzade***PHYS 385.** Solvent effects on excitation and electron transfer efficiency in the carboxylic anchoring dye-TiO₂ system. *H. Fang, D.L. Kuhn, Z. Zander, B.G. DeLacy, J. Chen, Y. Rao, H. Dai***PHYS 386.** Probing the high-excited states dynamics in the methyl azide molecule: A joint experimental-theoretical study. *B. Mignolet, W.K. Peters, D.E. Couch, R.C. Fortenberry, X. Shi, H.B. Schlegel, H. Kapteyn, M.M. Murnane, W. Li***PHYS 387.** Carbonic acid can protonate biological bases. *D. Aminov, D. Pines, P.M. Kiefer, S. Daschakraborty, J.T. Hynes, E. Pines***PHYS 388.** A time-dependent view of an isotope effect in the coherent excitation of N₂ by an attosecond pulse. *K.G. Komarova***PHYS 389.** Metallation modulates the properties of Curcumin: An ultrafast dynamics overview. *D. Bagchi, S. Pal***PHYS 390.** Ultrafast pump-probe and two-dimensional electronic spectroscopic studies of BODIPY chromophores. *Y. Lee, S. Das, R.M. Malamakal, S. Meloni, D.M. Chenoweth, J.M. Anna***PHYS 391.** Observation of excimer states with nanosecond lifetimes in stacked adenine model dimers connected by alkyl linkers. *M. Bohnsack, U.C. Stange, F.D. Sönnichsen, F. Temps*

- PHYS 392.** Ultrafast gold nanorod welding mechanisms: Fabricating high aspect ratio nanorods. *P. Johns, R. Suess, J. Naciri, N.A. Charipar, J. Fontana*
- PHYS 393.** First-principles study of the temperature dependence of energy gaps in high-temperature gas sensor materials. *Y. Wu, W. Al-Saidi, P. Ohodnicki, B. Chorpeneing, Y. Duan*
- PHYS 394.** Anomalous fragmentation of water clusters: Theoretical study using two complementary procedures. *T. Raz - Nahum, Y. Hassin, T. Itzhak*
- PHYS 395.** Stoichiometric $B_{13}C_2$: Structural stability and mechanism of compression up to 68 GPa. *I. Chuvashova, E. Bykava, M. Bykov, V. Svitlyk, L. Dubrovinsky, N. Dubrovinskaia*
- PHYS 396.** 'Molecular anvils' for sterically controlled mechanochemistry under hydrostatic pressure. *H. Yan, P.R. Schreiner, W.L. Mao, Z. Shen, N.A. Melosh*
- PHYS 397.** Solute-solvent interactions of small anions in a variety of solvents. *A.B. Grafton, A.D. Dunkelberger, K. Fears, R.B. Davidson, W.J. Dressick, B. Simpkins, J. Owrutsky*
- PHYS 398.** Following the nucleation pathway of gyroid. *M. Marriott, L. Lupi, A. Kumar, V. Molinero*
- PHYS 399.** Theoretical studies of PAHs' energetic processing: Isomerisation and dissociation. *A. Simon, M. Rapacioli*
- PHYS 400.** Ratchet mechanisms for directional charge transport in molecular structures. *J. Valdiviezo, P. Zhang, D.N. Beratan*
- PHYS 401.** ORR activity prediction of molecular catalysts. *S. Chen, J. Chen, Y. Chen*
- PHYS 402.** On the origin of capacitance of colloidal quantum dot. *H. Liu, C.K. Brozek, D.R. Gamelin, X. Li*
- PHYS 403.** Superstructural aggregation behavior of cyanine dyes in aqueous solution. *W. Bricker, J. Banal, M. Stone, M. Bathe*
- PHYS 404.** Structural tuning of quantum entanglement in the peridinin-chlorophyll protein. *R.W. Tillock, J.D. Roscioli, S. Ghosh, A.M. LaFountain, H.A. Frank, W.F. Beck*
- PHYS 405.** Sterecontrolled photoinduced electron transfer in metal-fullerene hybrids. *A.J. Stasyuk, N. Martin, M. Solá, A.A. Voityuk*
- PHYS 406.** Energy disorder and transport in C8S3 J-aggregates. *N. Klein, T. Sinclair, J.R. Caram, M.G. Bawendi*
- PHYS 407.** Following excitonic pathways in cyanobacteria by 2D electronic spectroscopy. *S.C. Massey, S.H. Hess Sohail, J.S. Higgins, H. Andrew, N. Cleland, J. Otto, G.S. Engel*
- PHYS 408.** SERS based and paper analytical devices (PADs) method in detecting some illicit drugs. *G. Merga*
- PHYS 409.** Characterization and manipulation of vibrational wavepacket motion on the potential energy surface of spin-Peierls melting using femtosecond stimulated Raman spectroscopy. *C. Rich, R.R. Frontiera*
- PHYS 410.** Mapping the response of ultrafast energy pathways to changing light conditions in living cyanobacteria using 2D electronic spectroscopy. *S.H. Hess Sohail, S.C. Massey, J.S. Higgins, N. Cleland, J. Otto, G.S. Engel*
- PHYS 411.** Probing ultrafast energy cascading kinetics in Ruddlesden-Popper perovskites. *A. Iqbal*
- PHYS 412.** Generalized classification of excitonic molecular aggregates based on T-dependent spectral line shapes and their long-wavelength scaling properties. *C. Chuang, J. Cao*
- PHYS 413.** Towards high performance large-area luminescent solar concentrators. *B. Zhang, W.W. Wong, J.J. David, K. Ghigino*
- PHYS 414.** Exciton dynamics in atomically thin colloidal halide perovskite nanoplatelets. *M. Ashner, S. Ha, W.A. Tisdale*
- PHYS 415.** Excitons modeling in CdSe quantum dot dimers and arrays: toward ultrafast coherent information processing. *H. Gattuso, B. Fresch, F. Remaclé*
- PHYS 416.** Energetics and couplings in oligoacene-based singlet fission: Efficient and accurate density functional theory tells the story. *Z. Lin, H. Iwasaki, H. Ye, T.A. Van Voorhis*
- PHYS 417.** Can TDDFT describe the excited electronic states of naphthal photoacids? *A. Acharya, S. Chaudhuri, V.S. Batista*
- PHYS 418.** Computational study of charge hopping dynamics in disordered quantum environments. *N. Chen, S.J. Jang*
- PHYS 419.** New anthracene derivatives towards air stable solid-state triplet-triplet annihilation upconversion. *C. Gao, T.W. Schmidt, T.A. Smith, W.W. Wong*
- PHYS 420.** High-resolution supersonic jet spectroscopy of interstellar PAHs and PAH-related analogs: Astronomical applications. *S. Bejaoui, F. Salama*
- PHYS 421.** Short-range electron transfer in reduced flavodoxin: Ultrafast nonequilibrium dynamics coupled with protein fluctuations. *M. Kunda, D. Zhong*
- PHYS 422.** Signatures of vibrationally assisted exciton dynamics in two dimensional electronic spectroscopy simulations. *J.A. Provazza, D. Coker*
- PHYS 423.** Isolation and characterization of gold nanoparticle surface stabilizing species. *H. Morales, A. Cirra, C. Kniatek, C.J. Johnson*
- PHYS 424.** Numerical studies of a generalized quantum Fokker-Planck equation. *T.M. Ture, S.J. Jang*
- PHYS 425.** Charge tunneling through intentionally conformationally disordered self-assembled monolayers. *L. Belding, M. Baghbanzadeh, L. Yuan, S. Oyola-Reynoso, E.M. Rojas, P. Pieters, G.M. Whitesides*
- PHYS 426.** Quantifying the effect of polymer films on localized surface plasmon resonance of gold nanoparticles with hyperspectral imaging. *T. Leibig, C.C. Flatebo, C.F. Landes, S. Collins*
- PHYS 427.** Effect of salt concentration on the condensation of DNA by positively charged nanoparticles. *J. Song, S. Park, J. Kim*
- PHYS 428.** Solvent dependent amplified 2-photon cross sections in highly coupled thiophene-naphthalimide charge transfer complexes. *C.J. Zeman, A.L. Jones, K.S. Schanze*
- PHYS 429.** Analysis of arsenic in aqueous media using absorption and fluorescence spectroscopy. *M.T. Buthelezi, Y. Zhang, B. Tatematsu*
- PHYS 430.** Self-consistent internal calibration of x-ray scattering patterns from polarized radiation sources. *N. Goff, B.M. Stankus, J.M. Ruddock, Y. Zhang, T.J. Lane, M. Liang, S. Boutet, S. Carbajo, J.S. Robinson, J.E. Koglin, A. Aquila, M.P. Minitti, P.M. Weber*
- PHYS 431.** Effect of dicationic bis(trifluoromethylsulfonyl) imide ionic liquids on hexagonal phase of a binary system composed of Triton-X 100 and water. *L.T. Thieghi, L.S. Longo Jr, P. Licence, S. Alves*
- PHYS 432.** Regulation of EGFR signal transduction by dynamic receptor clustering. *Q. Zhang*
- PHYS 433.** Simultaneous determination of equilibrium constants for cyclodextrin complexes with PAHs using steady-state fluorescence and parallel factor analysis. *J.W. Chiarelli, V. Gomes, J.E. Kenny*
- PHYS 434.** Agglomeration dynamics of magnetic nanoparticles at low magnetic field gradient studied by monitoring temporal changes of magnetic weight. *H. Kim*
- PHYS 435.** Development of effective stochastic potential method using random matrix theory for efficient conformational sampling of molecular quantum mechanical properties at non-zero temperatures. *J. Scher, A. Chakraborty*
- PHYS 436.** Quantum control of nanoparticles at low temperature. *Q. Wang*
- PHYS 437.** Surface plasmon enhanced luminescence of Zn/ZnO nanotubes. *H. Kim*
- PHYS 438.** Acetylene addition to vinyl and aryl radicals: Experimental investigation of HACA and PAH formation pathways. *M. Smith, T. Chu, Z.J. Buras, G. Liu, W.H. Green*
- PHYS 439.** Formation and identification of borane radical anions isolated in solid argon. *Y. Wu, M. Lin, T. Huang, C. Chin*
- PHYS 440.** Strong-field laser induced H₂ roaming reactions and the formation of H₃⁺ from organic molecules. *N. Ekanayake, M. Nairat, M. Michie, N. Weingartz, B. Farris, T. Severt, P. Feizollah, B. Jochim, B. Kaderiya, F. Ziaee, K. Borne, K.R. Pandiri, K. Carnes, D. Rolles, A. Rudenko, I. Ben-Itzhak, B.G. Levine, J.E. Jackson, M. Dantus*
- PHYS 441.** All-atom structure-based model of RNA with explicit electrostatics and explicit treatment of mobile ions. *A. Wang, M. Levi, U. Mohanty, P.C. Whitford*
- PHYS 442.** Self-assembly of liquid crystalline donor-acceptor molecule. *J. Logsdon, M.R. Wasielewski*
- PHYS 443.** Plasmon-coupled resonance energy transfer: Permanent entangled states dynamics. *K. Nasiri Avanaki*
- PHYS 444.** An ultrafast look at a thermally activated delayed fluorescence chromophore. *R.J. Vazquez, T.G. Goodson*
- PHYS 445.** From single-molecule studies on chemical reactions to the development of sophisticated labels for bioimaging. *F. Braun, D. Brox, A. Haderspeck, P. Werther, K. Yserentant, T. Cordes, R. Wombacher, D. Herten*
- PHYS 446.** Ultrafast spectroscopy of transparent photovoltaic cells. *J. Lahiri, M. Nairat, M. Bates, R.R. Lunt, M. Dantus*
- PHYS 447.** Modulation of charge recombination in CsPbBr₃ perovskite films with electrochemical bias. *R. Scheidt, P.V. Kamat, G.F. Samu, C. Janaky*
- PHYS 448.** Photothermally controlled release of ceftriaxone fosamil using polydopamine-coated gold nanocages. *B. Gattis, J. Chen*
- PHYS 449.** Utilizing ultrafast spectroscopy to investigate the dynamics of singlet fission. *S. Doble, J.P. Avenoso, H. Yan, L. Purvis, C. Sutton, C.J. Douglas, L. Gundlach*
- PHYS 450.** Extreme ultraviolet photoemission dynamics of carriers at the surface of a Zn/n-GaP junction. *B. Lamoureux, B. Marsh, S.R. Leone*
- PHYS 451.** Liquid-vapor phase separation at the adsorbing surface: A molecular dynamics simulation study. *K. Kil, J. Kim*
- PHYS 452.** Clocloser-PBA derivative for HIV virion capture. *A.S. Alnafisah, F.S. Coulbaly, N.A. Oyler, B. Youan*
- PHYS 453.** High surface temperature measurements of methane activation on a nickel surfaces: Reactivity and the role of carbon dissolution. *D. Tinney, E. Dombrowski, E. High, A. Utz*
- PHYS 454.** Spectroscopy with a handful of photons: Entangled two photon absorption of thienoacene molecules. *A.V. Eshun, L. Yu, T.G. Goodson*
- PHYS 455.** Reactivity of sulfur anions with electronically excited molecular oxygen, O₂ (a¹Δ). *N. Eyet, Z. Wang, V.M. Bierbaum*
- PHYS 456.** Coherent energy transport measurement via nonlinear near field optical microscope interferometry in an organic solar cell. *O. Varnavski, T. Kim, T.G. Goodson*
- PHYS 457.** Simulating redox potentials in aqueous solutions with explicit solvent models: The role of MM forcefields. *M. Burrows, R. Tazhigulov, K.B. Bravaya*
- PHYS 458.** Molecular simulations of moveable carbon nanotube membrane for sea water desalination. *S. Li, J. Yin*
- PHYS 459.** Determining rate constants for photogenerated carrier recombination in quantum dot thin films. *D.B. Straus, T. Zhao, G. Liu, C.R. Kagan*
- PHYS 460.** High-resolution photoelectron imaging study of cryogenically-cooled fullerene anions: C₆₀N⁻, (C₆₀N)₂²⁻, H₂O@C₆₀⁻ and H₂O@C₆₀N⁻. *G. Zhu, L. Wang*
- PHYS 461.** Point to point proton transfer in aqueous solutions. *D. Pines, H. Rozler, E. Pines*
- PHYS 462.** Photophysical study of ruthenium (II) tris (1,10-phenanthroline) encapsulated in zirconium based Uio-66 and derivatives. *J. Mayers, R.W. Larsen*
- PHYS 463.** Probing the electronic and vibrational structure of iridium doped boron clusters using high resolution photoelectron imaging. *J.G. Czekner, L. Cheung, L. Wang*
- PHYS 464.** Excited state intermolecular proton transfer of a "super" photobase. *M. Nairat, W. Sheng, P.D. Pawlaczyk, E. Mroczka, B. Farris, E. Pines, J. Geiger, B. Borhan, M. Dantus*
- PHYS 465.** Low-frequency vibrations of tartaric acid cocrystals. *M.P. Davis, T.M. Korter*
- PHYS 466.** Super-molecules of the future: Porphyrin polymers for old applications. *A. Albalawi*
- PHYS 467.** A machine learning based approach to rate estimation. *M. Johnson, W.H. Green*
- PHYS 468.** Energy transfer pathways of cyanobacterial photosystem I complexes revealed through two-dimensional electronic spectroscopy. *Y. Lee, M. Gorka, J. Golbeck, J.M. Anna*
- PHYS 469.** Interpreting the low-frequency vibrational fingerprints of crystalline pigments. *E.M. Kleist, T.M. Korter*
- PHYS 470.** Ion imaging studies of the photodissociation of OCS near 214 nm. *C. Wallace, C.E. Gunthardt, S.W. North*
- PHYS 471.** Quantum chemical extrapolation scheme to calculate potential energy of OH stretching in water. *M. Yang*
- PHYS 472.** Excitonic processes in diketopyrrolopyrrole derivatives. *S. Bradley, M. Chi, K. Ghigino, T.A. Smith, J. White*
- PHYS 473.** Crystalline molecular standards for low-frequency vibrational spectroscopies. *S.J. Dampf, T.M. Korter*
- PHYS 474.** Water reactivity of molybdenum sulfide cluster anions. *J. Topolski, K. Nickson, C. Jarrold*
- PHYS 475.** Effects of radiation in slurry systems containing aluminum (oxy)hydroxides. *P.L. Huestis, J.A. Kaddissy, J.A. Laverne*
- PHYS 476.** Temperature effects in the radiolysis of boehmite. *J. Kaddissy, P.L. Huestis, J.A. Laverne*
- PHYS 477.** Steady state and time-resolved mid-IR spectroscopy explicates emergent properties of host-guest complexes. *R. Gera, S. Meloni, A. Hoffnagle, J.M. Anna*
- PHYS 478.** A new method to create microscopic gold patterns by combining the photoreduction of Au(III) and the electrodeposition of Au(I). *C. Sirkoch, M. Murphy, C.N. Lafratta*

PHYS

PHYS 479. Monitoring catalysis of organohalide reactions with perovskite nanoparticle surfaces. *E.G. Ripka, C.R. Deschene, M.M. Maye*

PHYS 480. Assessment of fragmentation strategies for large proteins using the multilayer molecules-in-molecules (MIM) approach. *B. Thapa, D. Beckett, K. Raghavachari*

PHYS 481. Highly accurate *ab initio* dipole moment surface for water: Transitions extending into the ultraviolet. *E.K. Conway, A. Kyuberis, O.L. Polyansky, J. Tennyson*

PHYS 482. Anion photoelectron imaging of alkoxy radical isomers. *K.M. Patros, J.E. Mann, C. Jarrald*

PHYS 483. Shultz-Bisson-Wang (SBW) nonlinear interferometer: Measuring complex sum frequency generation (SFG) spectra. *J.M. Marmolejos, P.J. Bisson, M.J. Shultz*

PHYS 484. Electronic structure and redox chemistry of heme centers in protein environments. *E. Karnaukh, K.B. Bravaya, S.J. Elliott*

PHYS 485. Calculation of excitation energies in semiconductor nanoparticles using geminal-screened electron-hole interaction kernel. *P. McLaughlin, M. Bayne, A. Chakraborty*

PHYS 486. Effect of temperature on excitonic properties in colloidal quantum dots. *S.A. Ali, J. Scher, A. Chakraborty*

PHYS 487. Astrochemistry across bonds and rows: Theory and experiments on [H₂C₂O] and [H₂C₂S] isomers. *K. Lee, M. Martin-Drumel, V. Lattanzi, B. McGuire, O. Pirali, J. Guillemin, M.C. McCarthy*

PHYS 488. Conformational ensembles of viral protein complexes from molecular dynamics and vibrational probe data. *C. Fu, C.H. Londergan*

PHYS 489. Brilliant cresyl blue in tunable ionic liquid solvents: Comparison between experimental and TD-DFT spectra. *J.C. Mahen, T.D. Vaden*

PHYS 490. Ultrafast transient absorption spectroscopy (TAS) with limited chirp and 10kHz camera repetition rate. *J.P. Avenoso, H. Yan, B. Abraham, J. Nieto-Pescador, L. Gundlach*

PHYS 491. The nanocatalytic properties of ceria: Paving way to clean energy and hydrogen production. *S. Martell, P. Huttunen, M.C. Foster*

PHYS 492. Weak intermolecular forces: Cyclophane monomers and dimers. *Y. Zhang, C. Oberg, P. Abrahamson, M.T. Buthelezi*

PHYS 493. Synthesis of luminescent TMDs: Effect of water (and chalcogen source) on structural and optical properties. *T. Kuykendall, C. Chen, C. Kastl, S. Aloni, A. Schwartzberg*

PHYS 494. Thermodynamic properties of a Lennard-Jones liquid from integral equation theory with enforced thermodynamic consistency. *T. Tsednee, T. Luchko*

PHYS 495. Study of nonlinear thermo-optical properties of dicationic ionic liquids using the Z-Scan technique. *S. Alves, K. Fudimura, L.S. Longo Jr, P. Licence*

PHYS 496. Density functional theory study of the point defect properties of γ -LiAlO₂, Li₂ZrO₅, and Li₂TiO₅ materials. *Y. Lee, J. Halber, H.P. Paudel, D. Sorescu, Y. Duan*

PHYS 497. Guest to framework photoinduced electron transfer in a cobalt substituted Kulkle type metal organic framework. *C. McKeithan, R.W. Larsen*

PHYS 498. Determining the presence of ligands on eutectic gallium-indium nanoparticles by Fourier-transform infrared spectroscopy. *E.P. Wolff, Y. Thomas, M.C. Foster*

PHYS 499. Modeling soft colloids using stochastic hard collision dynamics. *R.S. Singh, R. Hernandez*

PHYS 500. Benchmarking coarse-grained simulations of the nanoparticle-bilayer interface. *G. Chong, A. Bautista, R. Hernandez*

PHYS 501. State-resolved measurements of methane dissociation on Ir(110) at different surface temperatures. *S. Shepardson-Fungairiño, E. Peterson, E. Nicotera, E. Dombrowski, A. Utz*

PHYS 502. Elucidating the membrane diffusion dynamics of muscarinic-1 acetylcholine receptor (M1R) with quantum dots. *D. Taylor*

PHYS 503. Search for the rotational spectrum of the β -cyanovinyl radical. *S.L. Johansen, K.N. Crabtree*

PHYS 504. Long-range EGFR clustering: A hyperspectral plasmon coupling imaging study. *S. Zhang, B.M. Reinhard*

PHYS 505. Impedance analysis for leaky membrane model with Butler-Volmer reaction kinetics in charged porous media. *E. Khoo, J. Song, M.Z. Bazant*

PHYS 506. Photofragment ion imaging: Measuring the bond energetics and dissociation dynamics of diatomic metal cations. *S. Lockwood, M.D. Johnston, R.B. Metz*

PHYS 507. Study of the interaction between titanium dioxide and azo-dyes (Bromothymol blue and Methyl red) at different pH values by using UV-Vis and Raman spectroscopy. *H. Li, D. Graf Stillfried, M.C. Foster*

PHYS 508. Temperature-dependent hygroscopic behaviors of atmospherically relevant water-soluble carboxylic acid salts studied by ATR-FTIR spectroscopy. *Y. Liu*

PHYS 509. Exploring design principles for artificial light harvesting using DNA-scaffolded molecular aggregates. *W. Chen, J. Banal, T. Kondo, W. Bricker, M. Bathe, G. Schlau-Cohen*

PHYS 510. Conformational structures and vibrational spectroscopic investigation of isolated dityrosine and tryptophan-tyrosine dipeptides: A theoretical study. *M.L. Mayes*

PHYS 511. Fluorescence and excited-state conformational dynamics of ketocarotenoids in the orange carotenoid protein. *J. Gurchiek, H. Bao, M.A. Dominguez-Martin, S.E. McGovern, J.D. Roscioli, C. Kerfeld, W.F. Beck*

PHYS 512. Mechanisms and time-resolved dynamics for cyanine dyes. *N. Talebloo*

PHYS 513. Specific dissociation of core-excited pyrimidine nucleobases. *C. Liu*

PHYS 514. Light-induced reversible reactions in SPEEK/PVA films and solutions containing thionine. *R. Dissanayaka, G.C. Mills*

THURSDAY MORNING

SECTION A

Boston Convention & Exhibition Center
Room 106

Characterization, Detection & Application of Excitons in Chemistry

Singlet & Triplet Excitons: Computation

C. J. Bordeen, S. J. Jang, *Organizers*
S. Tretiak, *Presiding*

8:30 PHYS 515. The life cycle of triplet excitons.

T.A. Van Voorhis

9:00 PHYS 516. Excitonic processes in porphyrin-based photon upconversion materials. *K. Ghiggino, S. Novakovic, R. Steer, J. White, W.W. Wong*

9:30 PHYS 517. Charge-transfer excitons and Frenkel excitons in linked pentacene dimers: Influences for singlet fission and triplet-triplet annihilations. *C. Hsu*

10:00 PHYS 518. Endothermic singlet fission is hindered by excimer formation. *C.B. Dover, J.K. Gallaher, L. Frazer, P. Tapping, A.J. Petty, M.J. Crossley, J.E. Anthony, T.W. Kee, T.W. Schmidt*

10:20 Intermission.

10:40 PHYS 519. Vibronic coherence in singlet fission: Results for crystalline tetracene from an *ab initio* exciton model. *J. Herbert, A. Morrison, B. Alam*

11:10 PHYS 520. Singlet fission in pentacene polymers. *L. Yablon, S. Sanders, E. Kumarasamy, H. Li, X. Zhu, M. Sfeir, L.M. Campos*

11:30 PHYS 521. Ultrafast exciton localization during excited-state dynamics of a tetracene trimer: Insight from surface hopping LC-TDDFT dynamics. *E. Titov, A. Humeniuk, R. Mitrić*

SECTION B

Boston Convention & Exhibition Center
Room 257A

Chemical Applications of Ultrafast X-ray/XUV Spectroscopy & Scattering

Photocatalysis & Photovoltaics

Cosponsored by INOR
R. van der Veen, J. Vura-Weis, P. Wernet, *Organizers*,
Presiding

8:30 Introductory Remarks.

8:40 PHYS 522. Ultrafast electron dynamics in CuFeO₂ solar photocathodes measured by XUV reflection-absorption spectroscopy. *L. Baker, J. Husek, A. Cirri, S. Biswas, A.R. Asthagiri*

9:25 PHYS 523. Hot-hole cooling in CH₃NH₃PbI₃ perovskite probed via transient XUV spectroscopy. *M.A. Verkamp, M. Lin, A. Sharma, J. Vura-Weis*

9:45 PHYS 524. Femtosecond tracking of carrier relaxation in germanium with extreme ultraviolet transient reflectivity. *C. Kaplan, P. Kraus, A. Ross, D.M. Neumark, S.R. Leone*

10:05 Intermission.

10:25 PHYS 525. Tracking the electronic and structural configurations of water splitting catalysts for artificial photosynthesis. *D. Moonshiram*

10:45 PHYS 526. Exploring zeolitic imidazolate frameworks as intrinsic photocatalytic materials. *J. Huang, B. Pattengale, S. Yang*

11:30 PHYS 527. Effect of lattice oxidation on the surface electronic structure of NiO probed by ultrafast XUV reflection-absorption spectroscopy. *S. Biswas, J. Husek, S. Londo, L. Baker*

11:50 Concluding Remarks.

SECTION C

Boston Convention & Exhibition Center
Room 254B

Electrochemical Interfaces

L. Meda, G. Yushin, *Organizers*
O. Borodin, *Organizer*, *Presiding*
K. Leung, *Presiding*

8:30 PHYS 528. Multiscale modeling of nanostructured electrodes and interfaces in Li-ion batteries. *D. Bedrov*

9:10 PHYS 529. Ionic liquids at electrified interfaces: From double layers to decomposition. *J. Haskins, H. Yildirim, C. Bauschlicher, J. Lawson*

9:50 PHYS 530. Ion correlations and surface forces in multivalent electrolytes. *P. de Souza, R. Misra, M.Z. Bazant*

10:10 PHYS 531. Revealing of double layer structure at EDLCs electrode/electrolyte interface. *W. Tsai, J. Come, N. Balke*

10:30 PHYS 532. Nanoarray electrodes for high-rate rechargeable Na and Zn ion batteries. *D. Chao, G. Jia, H. Fan*

10:50 Intermission.

11:05 PHYS 533. Population dynamics of driven reactive mixtures applied to Li-ion battery electrodes. *H. Zhao, M.Z. Bazant*

11:25 PHYS 534. Modeling irreversible capacity loss in carbon-black anodes. *S. Das, P. Attia, W. Chueh, M.Z. Bazant*

11:45 PHYS 535. Marcus type electron transfer between molecular dopants and pristine (n,m) single-walled carbon nanotubes at the solid-liquid interface. *A.T. Liu, Y. Kuna, A. Cottrell, M. Strano*

12:05 PHYS 536. Room temperature ionic liquids as spin glasses. *A. Levy*

SECTION D

Boston Convention & Exhibition Center
Room 160C

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, *Organizers*
N. Dattani, R. T. Skodje, *Presiding*

8:30 PHYS 537. Calculating accurate spectra for the terrestrial and hot atmospheres. *J. Tennyson*

9:05 PHYS 538. Understanding the 'odd' behavior of the nascent O₂ (α Δ_g , $v = 0, 1$) rotational distributions from the photodissociation of jet-cooled O₂ in the Hartley band. *M. Warter, C.E. Gunthardt, W. Wei, G.C. McBane, S.W. North*

10:00 Intermission.

10:20 PHYS 539. Peptide fragmentation: From dynamics and kinetics to potential energy surfaces. *P.B. Armentrout*

10:55 PHYS 540. PAHs adsorbed on interstellar ice: Structures, energetics and IR spectra from a multi-method theoretical study. *E. Michoulier, C. Toubin, A. Simon*

11:15 PHYS 541. Adsorption and diffusion of atomic hydrogen on graphene, and molecular hydrogen formation via the Eley-Rideal and Langmuir-Hinshelwood mechanisms. *G. Vidali, M. Karimi, C. LeBlond, J. Petucci, S. Semone*

11:35 PHYS 542. Combining quantum chemistry with classical molecular dynamics for the theoretical study of radical reactivity at the surface of organic aerosols. *C. Fotsing Kwetche, C. Toubin, D. Duflot*

SECTION E

Boston Convention & Exhibition Center
Room 162A

Structural Photonics: Determining the Structural Influence on the Physical Properties of Photonic Materials

2D Semiconductors

A. E. DePrince, K. L. Knappenberger, *Organizers*
A. Schwartzberg, *Organizer*, *Presiding*

8:30 Introductory Remarks.

8:35 PHYS 543. Controlling the electronic properties of 2D semiconductors by the external environment. *T. Heinz*

9:10 PHYS 544. Correlative microscopy: A guide to effective quantum materials exploration. *S. Aloni, C. Chen, C. Kastl, T. Kuykendall, B. Schuler, R. Koch, A. Schwartzberg*

9:45 PHYS 545. Electronic and optical properties of (4,8) boron-group V nanosheets. *P.A. Brown, K.L. Shuford*
10:20 Intermission.

10:35 PHYS 546. 2D Semiconductors: From synthesis to photonic properties. *J. Robinson*

11:10 PHYS 547. Ultrafast carrier and spin dynamics in two-dimensional semiconductors. *D. Stefano, Z. Wang, E. Pogna, P. Altmann, C. Trovatiello, G. Soavi, A. Ferrari, G. Cerullo*

11:45 PHYS 548. Ultrafast carrier dynamics of transition metal dichalcogenides probed at the nanoscale. *Z. Loh*

12:20 PHYS 549. Mask-directed lithography for nanopatterning of monolayer transition metal dichalcogenides. *G. Han, J.C. Grossman*

SECTION F

*Boston Convention & Exhibition Center
Room 154*

Materials in Extreme Environments

Extreme Chemistry of Planetary Interiors

Cosponsored by COMP
E. Zurek, Organizer

A. Alexandrova, Organizer, Presiding

8:30 PHYS 550. Prediction of novel H₂O-NaCl and carbon oxide compounds at extreme conditions. *B. Miltzer, R. Domingos*

9:00 PHYS 551. Integrating first-principles theory and multi-Mbar shock experiments for understanding phase transitions at extreme conditions. *T.R. Mattsson, S. Root, J.P. Townsend, L. Shulenburg*

9:30 PHYS 552. Unusual chemistry in dense planetary mixtures. *C. Yoo*

10:00 Intermission.

10:15 PHYS 553. Hypervalent penta-coordinated silicon and metastable phase transitions in chain silicates at high pressure. *P. Dera*

10:45 PHYS 554. Formation of methane clathrate hydrates at elevated pressures and in the presence of nanoparticles. *N.T. Skipper, D. Taylor, S. Cox, A. Michaelides, T.G. Youngs, A. Soper, T. Totton, R. Chapman, M. Hodges, M. Arjmandi*

11:45 PHYS 555. Ionic ammonia-rich hydrates at planetary conditions. *V. Naden Robinson, A. Hermann, Y. Ma, Y. Wang*

SECTION G

*Boston Convention & Exhibition Center
Room 160B*

New Spectroscopic Techniques for Astrochemistry

Microwave & Millimeter-Wave Astrochemistry

*K. N. Crabtree, M. McCarthy, Organizers
I. Gordon, Presiding*

8:30 Introductory Remarks.

8:35 PHYS 556. New instrumental and synthetic developments in rotational spectroscopy: A focus on metal-bearing radicals. *L.M. Ziurys, D.T. Halfen, M. Burton, J. Keogh, P.M. Sheridan*

9:15 PHYS 557. Millimeter-wave spectroscopy of KO: Metal oxides relevant to astrochemistry. *M. Burton, B. Russ, P.M. Sheridan, M.P. Bucchino, L.M. Ziurys*

9:35 PHYS 558. Spectroscopic characterization of astrophysical isomers: The relatives of ketene. *M. Martin-Drumel, K. Lee, O. Piralí, J. Guillemin*

9:55 Intermission.

10:25 PHYS 559. From weeds to dust: Astrochemical insights by rotational spectroscopy. *A. Steber*

11:05 PHYS 560. Tracing the origins of nitrogen bearing organics toward Orion KL with ALMA. *B. Carroll, G.A. Blake*

11:25 PHYS 561. From one to two dimensional interstellar carbon: A synthesis of laboratory, observations, and theory. *B. McGuire, K. Lee, M.C. McCarthy*

SECTION I

*Boston Convention & Exhibition Center
Room 253C*

Ultrafast Molecular Sciences by Femtosecond Photons & Electrons: Symposium in honor of Ahmed Zewail

M. Dantus, D. Zhong, Organizers, Presiding

8:30 Introductory Remarks.

8:35 PHYS 562. Ultrafast spectroscopy of synchronized and correlated excited state motions in the presence of spectral diffusion. *B. Roczynski, H. Zheng, V. Singh, P. Navotnaya, A. Ginzburg, J.R. Caram, A. Ashraf, A. Gardiner, R. Cogdell, S. Yeh, S. Kais, G.S. Engel*

9:15 PHYS 563. Intermolecular energy transfers. *J. Zheng*

9:50 PHYS 564. Probing vibronic couplings with two-dimensional vibrational-electronic spectroscopy. *M.H. Khalil*
10:25 Intermission.

10:40 PHYS 565. Novel ultrafast terahertz spectroscopies. *M. Bonn*

11:20 PHYS 566. The many benefits of high-harmonic radiation. *M. Vrakking*

11:55 PHYS 567. Attosecond coherent control of a free-electron wave-function via semi-infinite light fields and plasmon polaritons. *G. Vanacore, F. Carbone*

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Sponsored by COMP, Cosponsored by PHYS

THURSDAY AFTERNOON

SECTION D

*Boston Convention & Exhibition Center
Room 160C*

From Potential Energy Surfaces to Dynamics & Kinetics

R. Dawes, A. Jasper, Organizers, Presiding

1:30 PHYS 568. Elucidating dynamics and kinetics of singlet oxygen-induced guanine nucleoside oxidation using a combination of potential energy surfaces, kinetic modeling, molecular dynamics simulations and guided-ion-beam mass spectrometry. *J. Liu, W. Lu, Y. Sun, W. Zhou*

1:50 PHYS 569. Chaos at and away from the liquid-vapor critical point. *M. Das, A.B. Costa, J.R. Green*

2:10 PHYS 570. Molecular dynamics of combustion reactions in a supercritical environment: Boxed md study of reaction rates. *C. Wang, S.V. Panteleev, A. Masunov, S.S. Vasu*

2:30 PHYS 571. Predicting stable nano-titanosilicates for a wide range of compositions. *A. Cuko, S. Bromley, M. Calatayud*

2:50 Intermission.

3:10 PHYS 572. Combustion dynamics and kinetics from potential energy surfaces: The MReaDy approach. *C. Mogo, J. Brandão, C. Rio, W. Wang*

3:30 PHYS 573. Quantifying hydrogen bonding of phyloquinone through theoretical methods and mid-IR spectroscopies. *S. Meloni, A. Hoffnagle, J.M. Anna*

3:50 PHYS 574. Modeling of aromatics formation in fuel-rich methane oxy-combustion with an automatically generated pressure-dependent mechanism. *T. Chu, Z.J. Buras, P. Oßwald, M. Liu, S. Gudiyella, W.H. Green*

4:10 PHYS 575. Discovering unimolecular reaction pathways using an ensemble of automated reaction discovery methods. *C. Grambow, A. Jamal, Y. Li, W.H. Green, J. Zádor, Y.V. Suleimanov*

SECTION E

*Boston Convention & Exhibition Center
Room 162A*

Structural Photonics: Determining the Structural Influence on the Physical Properties of Photonic Materials

Semiconductor Solids & Molecular Assemblies

A. E. DePrince, K. L. Knappenberger, A. Schwartzberg, Organizers

S. Aloni, T. Zhao, H. Zheng, Presiding

1:30 Introductory Remarks.

1:35 PHYS 576. Photocatalysis of fuel-forming reactions enhanced by energy and charge funneling within colloidal assemblies. *E.A. Weiss, S. Lian, M.S. Kodaimati, G.C. Schatz*

2:10 PHYS 577. When a single structure is not sufficient: A random matrix theory approach to embedding noisy environment for calculating molecular quantum mechanical properties. *J. Scher, A. Chakraborty*

2:30 PHYS 578. High energy state relaxation pathways in PbS QDs through direct observation of the forbidden S-D intraband transition. *E. Kennehan, G. Doucette, A. Marshall, M.C. Beard, J.B. Asbury*

2:50 Intermission.

3:05 PHYS 579. Influence of structure on dynamics of excitons and charge carriers in functional nanoscale materials. *J.B. Asbury*

3:40 PHYS 580. Nanoscale transient electronic structure determination from variable-temperature variable-field magnetic circular photoluminescence (VTVH-MCPL) spectroscopy. *P. Herbert, K.L. Knappenberger*

4:00 PHYS 581. Developing and classifying 2D supramolecular aggregates derived from polymethine dyes. *J.R. Caram*

4:20 PHYS 582. Bacteriorhodopsin based biological p-n junction. *Y. Lv, D. Liang, S. Lu, J. Song, Y. Xiang*

SECTION F

*Boston Convention & Exhibition Center
Room 154*

Materials in Extreme Environments

Light Elements & Hydrides

Cosponsored by COMP

*A. Alexandrova, E. Zurek, Organizers
M. Miao, Presiding*

1:30 PHYS 583. Metallic hydrogen and deuterium. *I.F. Silvera*

2:00 PHYS 584. Unstable, metastable and ground state structures of lithium metal. *S. Deemyad*

2:30 PHYS 585. Synthesis and stability of superhydrides of lanthanum, yttrium, calcium, sulfur and selenium at high pressure - high temperature conditions. *M. Somayazulu*
3:00 Intermission.

3:15 PHYS 586. Metastable hydrogenous materials made at high pressures. *W.J. Nellis*

3:45 PHYS 587. Theoretical predictions of unique hydride phases under pressure. *E. Zurek*

SECTION G

*Boston Convention & Exhibition Center
Room 160B*

New Spectroscopic Techniques for Astrochemistry

Condensed-Phase Astrochemistry

*K. N. Crabtree, M. McCarthy, Organizers
K. Oberg, Presiding*

1:30 Introductory Remarks.

1:35 PHYS 588. Study of morphology, diffusion and ordering kinetics of CO₂ and CO₂/H₂O thin film ices. *G. Vidali, J. He, S. Emiaz*

2:15 PHYS 589. Some subtle problems of ice-phase astrochemistry and spectroscopy. *R.L. Hudson, P. Gerakines*

2:35 PHYS 590. Laboratory spectroscopy with a miniature mm-wave cavity spectrometer and coupled laser-ablation source. *A. Raymond, B. Drouin, M. McCarthy, K. Lee, E. Mazur*

2:55 Intermission.

3:25 PHYS 591. Submillimeter spectroscopy of sublimated interstellar ice analogs: A new technique for laboratory astrochemistry. *P. Gerakines, S.L. Widicus Weaver, S.N. Milam, K. Yocum, H. Smith*

4:05 PHYS 592. Spectroscopic measurements of radicals in outer Solar System ice analogs. *E. Fayolle, P.V. Johnson, R. Hodyss, X. Zhang, S.P. Sander*

4:25 PHYS 593. Ice chemistry laboratory apparatus with a tunable vacuum ultraviolet source for processing and detection. *P. Maksimtenko, M. Rajappan, K. Oberg*

4:45 Concluding Remarks.

Computational Photocatalysis: Modeling of Photophysics & Photochemistry at Interfaces

Sponsored by COMP, Cosponsored by PHYS

POLY

Division of Polymer Chemistry

C. Lipscomb, T. Epps and B. Helms,
Program Chairs

OTHER SYMPOSIA OF INTEREST:

Advanced Materials for Energy & the Environment:
Design, Fabrication & Application
(see ENVR, Tue, Wed, Thu)Dynamic Bonds for Structurally Precise Polymeric
Materials (see PMSE, Sun, Mon)Materials, Devices, and Switches
(see ORGN, Tue, Wed, Thu)Peptides, Proteins, & Amino Acids
(see ORGN, Sun, Tue)

Tough & Toughened Polymers (see PMSE, Sun, Mon)

SOCIAL EVENTS:

Industrial Advisory Board Breakfast, 7:30 AM: Tue
Programming Luncheon, 12:00 PM: Tue
POLY/PMSE Awards Reception, 5:30 PM: Wed

BUSINESS MEETINGS:

POLY Board Meeting, 12:00 PM: Sun

SUNDAY MORNING

SECTION A

Westin Boston Waterfront
Carlton

Vitrimers & Other Covalent Adaptable Networks

Synthesis/Chemistry

C. Bowman, F. E. Du Prez, *Organizers, Presiding***8:00 POLY 1.** Polymeric frustrated Lewis pairs. *M.P. Shaver***8:30 POLY 2.** Structurally tailored and engineered
macromolecular (STEM) gels. *K. Matyjaszewski***9:00 POLY 3.** Unconventional chemistries for vitrimers.
*J.S. Ishibashi, J.A. Kalow***9:20 POLY 4.** Self-healing polyanhydrides through dynamic
covalent exchange. *K. Tillman, M. Lawton, A.M. Witkowski,
P.T. Mather, D.A. Shipp***9:40** Intermission.**9:55 POLY 5.** Novel malleable covalent network polymers
and their applications in developing rehealable and fully
recyclable functional composite materials. *W. Zhang***10:25 POLY 6.** Click-based covalent adaptable networks.
*C.J. Kloxin***10:55 POLY 7.** Star hyperbranched polymers as precursors
to vitrimers or dynamic covalent networks. *G. Moad,
N.R. Cameron, H. Aziz, T.L. Schiller, S. Gomez, R. Paendner,
M. Stec***11:25 POLY 8.** Development of a new covalent adaptable
network through dynamic thiourethane bond. *X. Han,
Z. Wen, C. Bowman*

SECTION B

Westin Boston Waterfront
Griffin

Polymer Science of Everyday Things

D. Garcia, D. N. Hoase, *Organizers, Presiding***8:00 POLY 9.** Synthesis of brush polypeptides. *J. Cheng***8:40 POLY 10.** Protein engineered biopolymers as
biomaterials. *J.K. Montclare***9:15 POLY 11.** Advances in crosslinking enabling lots of new
everyday things: From solvent-free adhesives and elastomers
for construction to 3D printing automobile parts. *T.E. Long,
K.A. Heffernon, N.G. Moon, M. Chen, X. Chen***9:50** Intermission.**10:20 POLY 12.** Isocyanate free coating and PET foaming:
Polymer chemistry promoted by analytical sciences. *Y. He,
P. Foley, J. Argyropoulos, M. Porter, S. Costeux***10:55 POLY 13.** Waterborne PDMS-containing polyurethane
formulation for anti-smudge coatings and superhydrophobic
textiles. *S. Huang, G. Liu***11:30 POLY 14.** New methacrylate composition for
ultrahigh molecular weight poly(vinyl chloride) foam process
aid. *M. Petr, M. Kubik, S. LaRosa, W. Young*

SECTION C

Westin Boston Waterfront
Commonwealth Ballroom C

TOSOH Lectures

Interface of Polymer Science & Biology

Cosponsored by PMSE

J. Foster, *Organizer*E. B. Berda, M. A. Daniele, *Organizers, Presiding***8:00 POLY 15.** Injectable cryogel-based vaccine for breast
cancer immunotherapy. *S.A. Bencherif, D. Draganov, A. Li,
S. Lewin, T.C. Colombani, T. Shih, C. Verbeke, A. Memic,
G. Dranoff, D.J. Mooney***8:30 POLY 16.** Polymer-bioconjugation as post-
translational modification for protein structure and function.
*D. Konkolewicz, T. Wright, K. Burridge, C. Kozuszek,
N. Daman, H. Fischesser, J. Stewart, R.C. Page***9:00 POLY 17.** Phase behavior of engineered protein
sequences with polyelectrolytes. *A. Obermeyer,
C. Cummings, R. Kapelner, N. Zervoudis***9:30 POLY 18.** Nucleic acid analogs via thiol-click reactions.
*C. Bowman***10:00** Intermission.**10:30 POLY 19.** Trace element and isotope labels to study
uptake and intracellular trafficking of polymer conjugates.
*H.A. Klak***11:00 POLY 20.** Effect of minor sequence errors on the
degradation behavior and properties of biodegradable
periodic poly(α -hydroxy acid)s. *J.A. Nowalk, T.Y. Meyer***11:30 POLY 21.** Intelligent nanoscale polymer networks on
epithelial cells: Surface and diffusional effects. *N. Peppas,
J. Vela Ramirez, D. Spencer*

SECTION D

Westin Boston Waterfront
Marina Ballroom III

Polymer Chemistry for Functional Materials

A. Böker, F. Wiesbrock, *Organizers*G. N. Tew, *Organizer, Presiding***8:00** Introductory Remarks.**8:10 POLY 22.** Bottom-up assembly of stimuli responsive
functional polymeric systems. *D.A. Wilson***8:40 POLY 23.** Preparation of multi-stimuli-responsive
active colloids via RAFT polymerization-induced thermal self-
assembly. *I. Otsuka, X. Zhang, F.M. Winnik***8:55 POLY 24.** Design of reducing environment-responsive
gel capsules via miniemulsion periphery RAFT polymerization
as drug delivery carrier. *A. Kawamura, H. Nakaura,
T. Miyata***9:10 POLY 25.** On demand stiffening poly(ethylene glycol)
(PEG) hydrogels via [4+4] photocycloaddition of anthracenes.
*K.A. Günay, K.S. Anseth***9:25 POLY 26.** Dynamic microcapsules with reversibly
trigger-responsive membranes. *J. Werner, S. Nawar, Z. Wu,
D.A. Weitz***9:40 POLY 27.** Facially amphiphatic glycopolymers to mimic
the 3-D structure of antifreeze glycoproteins. *B. Graham,
M.I. Gibson***9:55 POLY 28.** Enzyme-responsive charge-reversal polymer
for enhanced anticancer drug delivery. *Y. Shen, Q. Zhou***10:10** Intermission.**10:40 POLY 29.** Sequence-defined polymer architectures:
Need for multi-functionality and absolute precision. *F.E. Du
Prez, S. Martens***11:10 POLY 30.** Facile synthesis of polystyrene-
polyphenylsiloxane Janus nanoparticles and their use
as intermediate for the synthesis of tailored plasmonic
materials. *P. Buskens, D. Mann, H. Keul, M. Moller,
M. Verheijen, S. Voigt***11:25 POLY 31.** Towards functional materials via
macromolecular design using cross-coupling and
alkylboranes. *A.J. Magenan***11:40 POLY 32.** Interfacial tetrazine ligation for the
fabrication of cell-instructive matrices. *K.T. Dicker, J. Song,
J.M. Fox, X. Jia*

SECTION E

Westin Boston Waterfront
Grand Ballroom CGeneral Topics: New Synthesis & Characterization
of PolymersD. Garcia, *Organizer*S. K. Pomarico, M. Young, *Presiding***8:00 POLY 33.** New polymerization methodology of amino
acids. *Y. Tao***8:20 POLY 34.** Iterative exponential growth of stereo- and
sequence-controlled polymers. *Y. Jiang, M. Golder, P. Teichen,
H.V. Nguyen, W. Wang, N. Milos, J.C. Barnes, D. Ehrlich,
J.A. Johnson***8:40 POLY 35.** Directional building blocks provide curvature
in poly(cyclohexasilane). *E. Marro, E. Press, R.S. Klausen***9:00 POLY 36.** Scaling up and down with metal-free
ring-opening metathesis polymerization. *A.J. Boydston,
L.M. Pascual, V. Kensy, J. Goldstone***9:20 POLY 37.** Functionalized helical poly(isocyanide)s and
their use in covalent and supramolecular block copolymers.
*S.K. Pomarico, E. Elacqua, D. Lye, K. Manning, A. Croom,
F. Morgia, L. Young, M. Weck***9:40 POLY 38.** Cyclic[n]daisychains for mechanically-
interlocked polymers and frameworks. *K. Cai, J.F. Stoddart***10:00 POLY 39.** Construction of covalent and
supramolecular organic framework. *Y. Shi***10:20 POLY 40.** Synthesis of star-comb and linear-comb
copolymers: Effect of chain topology on crystallization and
degradation behaviors. *X. Leng***10:40 POLY 41.** Topochemical polymerizations of a novel
covalent organic framework. *E.S. O'Brien***11:00 POLY 42.** Diversifying the backbone structures of IEG
polymers. *K. Qin, B. Qiao, Y. Jiang, J.A. Johnson***11:20 POLY 43.** Study on a robust PET-RAFT polymerization
catalyzed by carbon quantum dots (CDs). *J. Jiang, Z. Wang,
G. Ye, X. Huo, J. Chen***11:40 POLY 44.** Scandium-catalyzed olefin polymerizations:
Polar comonomer enchainment and nuclearity effects.*J. Chen, T. Lohr, T.J. Marks*

SECTION F

Westin Boston Waterfront
Otis

Polymers in Cultural Heritage

A. Davis, E. O'Loughlin, *Organizers, Presiding***8:00** Introductory Remarks.**8:05 POLY 45.** Alkoxysilane sol-gel consolidants for
calcareous stone. *A. Rohly, J. Church, M. Striegel,
D.C. Webster***8:30 POLY 46.** Synthetic polymers used as adhesives for
glass conservation. *S.P. Koob***8:55 POLY 47.** Accurate identification of degraded residues
of proteinaceous adhesives in historic mural paintings in Kizil
Grottos, Sinkiang, China by HPLC-MS/MS. *Z. Zhu***9:45** Intermission.**10:05 POLY 48.** How pigment/binder interactions
affect single-sided NMR measurements of acrylic paints.*T.K. Meldrum, M.T. Rooney***10:30 POLY 49.** Permeability of PET by water, acetic
acid, and formic acid: A study of the microenvironment
of encapsulated documents. *P.M. Mcguigan, A.K. Hall,
M. McGath*

Porous Polymers

Microporosity

Sponsored by PMSE, Cosponsored by POLY

Synergistic Approaches to Lignocellulosic Biomass
Research

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

SUNDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Carlton

Vitrimers & Other Covalent Adaptable Networks

New Methods

C. Bowman, F. E. Du Prez, *Organizers, Presiding***1:00 POLY 50.** Internally catalyzed covalent adaptable
networks. *F.E. Du Prez, M. Delahaye***1:30 POLY 51.** Latent, long-lived reactive species in
covalently cross-linked networks. *T.F. Scott, A.W. Bingham,
D. Ahn, S.R. Zavada***2:00 POLY 52.** Tuning of the glass transition temperature
of dicarboxylic acid-epoxy vitrimers by off-stoichiometric acid
content. *Q.A. Pautrel, F. Tournilhac, J.J. Blaker, C. Soutis,
M. Gresil***2:20 POLY 53.** Efficient shockwave energy dissipation in
dynamic covalent PDMS rubber. *C. Evans, B. Jing, J. Lee,
N.R. Sottos***2:40** Intermission.**2:55 POLY 54.** Identifying covalent bond breakage
in materials under strain: Mechanochemistry without
mechanophores. *A.P. Goodwin***3:25 POLY 55.** Dynamic covalent exchange in
polyanhydrides. *D.A. Shipp, K. Tillman, A.M. Witkowski,
P.T. Mather, M. Lawton*

3:55 POLY 56. Strong, malleable, and recyclable thermosets via robust dynamic covalent. *Z. Guan*

4:25 POLY 57. 'ABA' hydrogels designed as active therapeutics agents and as therapeutic delivery scaffolds. *A. Lee, Z. Vao, S. Gao, R. Ono, J. Hedrick, Y. Yang*

SECTION B

Westin Boston Waterfront
Griffin

Polymer Science of Everyday Things

D. Garcia, *Organizer*

D. N. Haase, *Organizer, Presiding*

S. C. Rukes, *Presiding*

1:00 POLY 58. An overview of emulsion polymerization technology for the preparation of industrially-relevant polymers for health, the home and smart living. *D.N. Haase*

1:40 POLY 59. Chemical and physical changes in a variety of contact lenses during the wastewater treatment processes. *C. Rolsky, V. Kelkar, R.U. Halden*

2:10 POLY 60. Using polymers to teach concepts in chemistry: A teacher workshop. *S.C. Rukes*

3:00 Intermission.

3:30 POLY 61. Connecting polymers to the health care industry: Multiple hands on activities. *S.C. Rukes*

4:30 POLY 62. Case study of polymer compatibility with ingredients in cosmetic products. *K. Davies, E. Farrell, J. Soule, M. SobkowiczKline, D.K. Ryan*

SECTION C

Westin Boston Waterfront
Commonwealth Ballroom C

TOSOH Lectures

Interface of Polymer Science & Biology

Cosponsored by PMSE

J. Foster, *Organizer*

E. B. Berda, M. A. Daniele, *Organizers, Presiding*

1:00 POLY 63. Amphiphilic methacrylate copolymers with anticancer activity. *K. Kuroda*

1:30 POLY 64. Photo-responsive polymeric nanoplexes for gene therapeutics delivery and wound healing applications. *T.H. Epps, M.O. Sullivan*

2:00 POLY 65. Polymer-protein composites from microfluidics to manufacturing human blood vessels. *M.A. Daniele, A.T. Young, K. Rivera, P. Erb*

2:30 POLY 66. Oxidatively robust polymers for implantable biomedical devices. *M.A. Hillmyer*

3:00 Intermission.

3:30 POLY 67. Integrin-targeting materials in regenerative medicine. *E. Cosgriff-Hernandez, A. Post, P. Dhavalikar, T. Wilems, Z. Lan*

4:00 POLY 68. Peptide-toyopearl adsorbents for removing CHO host cell proteins from cell culture supernatants. *A. Lavoie, A. Di Fazio, K. Blackburn, R.G. Carbonell, S. Menegatti*

4:30 POLY 69. Post-fabrication QAC-functionalized thermoplastic polyurethane for contact-killing catheter applications. *M. Becker*

5:00 POLY 70. Nano- and microfabricated hydrogels for regenerative engineering. *A. Khademhosseini*

SECTION D

Westin Boston Waterfront
Webster

Polymer Chemistry for Functional Materials

A. Böker, G. N. Tew, *Organizers*

F. Wiesbrock, *Organizer, Presiding*

1:00 POLY 71. Poly(vinylidene fluoride) based multiferroic composites. *K. Loos*

1:30 POLY 72. RAFT copolymerization of ionic monomers towards diverse functional materials. *K.A. Cavicchi, G. Deng, J. Angel*

1:45 POLY 73. Highly functionalizable polypyrrole phenylenes and polythiophene phenylenes: Synthesis and application in a range of biological applications. *D. Barker, W. Chan, J. Travas-Sejdic*

2:00 POLY 74. Hairy nanoparticles for lubrication. *B. Zhao*

2:15 POLY 75. Designing chemically inert metallo-polyelectrolytes as anion-exchange membranes in alkaline fuel cells. *C. Tang*

2:30 POLY 76. Radical-type rainbow mechanochromic polymers. *D. Aoki, K. Ishizuki, R. Goseki, H. Otsuka*

2:45 POLY 77. Effect of surface interactions on the insulating properties of epoxy composites. *P. Marx, A. Wanner, H. Jin, I. Tsekmes, J. Smit, W. Kern, F. Wiesbrock*

3:00 Intermission.

3:30 POLY 78. Harnessing click chemistry to diversify the functionality of anisotropic colloids. *L. Bradley, D. Lee, K.J. Stebe*

4:00 POLY 79. Combinatorial synthesis of functional polymers with complex architectures using thiol-Michael and aza-Michael chemistries. *D. Love, D. Domaille, B. Fairbanks, D. Klug, C. Bowman*

4:15 POLY 80. Fabrication of clickable nanogels from reactive copolymers: Novel nanocarriers for targeted therapy. *L. Chambre, B. Aktan, A. Degirmenci, R. Sanyal, A. Sanyal*

4:30 POLY 81. Synthetic hydrogels tailored for stabilization and sustainable release of agricultural and animal feed cargo. *P. Panescu, J. Ko, H.D. Maynard*

4:45 POLY 82. Realizing high refractive index materials from thiol-X polymers: A general synthetic strategy. *M. Alim, S. Mavila, R.R. McLeod, C. Bowman*

SECTION E

Westin Boston Waterfront
Grand Ballroom C

General Topics: New Synthesis & Characterization of Polymers

D. Garcia, *Organizer*

F. Horkay, S. Percec, *Presiding*

1:00 POLY 83. Development of oxidation-responsive polymers for targeting inflammation. *E. Owens, S.G. Spain*

1:20 POLY 84. Chemoenzymatic synthesis of telechelic polyalanine and its use as a reinforcing agent for silk materials. *K. Tsuchiya*

1:40 POLY 85. Synthesis of cell penetrating peptide containing α -aminoisobutylic acid using chemoenzymatic polymerization. *Y. Miyagi, K. Tsuchiya, K. Numata*

2:00 POLY 86. Synthesis of elastin mimicking polypeptide consisting of periodic di- and tri-peptide motifs by chemoenzymatic polymerization. *P.G. Gudeangadi, K. Tsuchiya, K. Numata*

2:20 POLY 87. ROMP-enabled combination cancer therapy—toward a single-carrier platform with precise ratio control, tunable therapeutic release, and specific targeting. *H.V. Nguyen, A. Detappe, Y. Jiang, N. Gallagher, C. Mathieu, P. Ghoroghchian, I. Ghobrial, J.A. Johnson*

2:40 POLY 88. Towards sequence-controlled antimicrobial polymers using PET-RAFT polymerization. *P. Judzewitsch, E. Wong, C. Boyer*

3:00 POLY 89. Synthesis of biologically active branched polysaccharide mimetics by ring-opening polymerization of maltose-based β -lactam. *R. Xiao, J. Zeng, M.W. Grinstaff*

3:20 POLY 90. DNA grafted hyperbranched polymer as smart drug delivery system for target binding and photoresponsive drug release. *L. Yang, H. Sun, W. Tan, B.S. Sumerlin*

3:40 POLY 91. Cartilage dynamics and function. *F. Horkay, P.J. Basser*

4:00 POLY 92. Synthesis and characterization of self-assembling ABC triblock co-polypeptides. *B. Barnes, L.M. Stein, D.A. Savin*

4:20 POLY 93. A synthetic, enantiopure, and well-defined carbohydrate polymer with an amino sugar backbone. *A. Balijepalli, M.W. Grinstaff*

4:40 POLY 94. Synthesis, characterization and computational studies on sulfated poly-amido-saccharides. *H. Caputo, J. McNeely, J.E. Straub, M.W. Grinstaff*

SECTION F

Westin Boston Waterfront
Otis

Polymers in Cultural Heritage

A. Davis, E. O'Loughlin, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 POLY 95. Understanding our collection: A survey of plastics at the Harvard Art Museums. *G. Rayner, M. Radford, E. LaDuc, A. Chang*

1:30 POLY 96. Treatment and drying challenges in the conservation of waterlogged rubber gaskets and seals from the Civil War submarine *H.L.Hunley*. *J. Rivera, S. Crette, L. Kasprzak*

1:55 POLY 97. Thermal effects on the degradation and restoration of polyurethane-based magnetic media. *A. Davis, E.B. Monroe, F.G. France*

2:20 Intermission.

2:40 POLY 98. Extinct and endangered polymers in cultural heritage materials. *E. O'Loughlin*

3:05 POLY 99. Teaching polymer chemistry to art conservation graduate students. *R. Ploeger*

3:30 POLY 100. Investigation of a soluble nylon applied to Japanese *sugito*. *G.A. Arbuckle-Keil, D. Byler, B.A. Price, F. Fischer, P.A. Olley, W. Kao*

Porous Polymers

Macroporosity

Sponsored by PMSE, Cosponsored by POLY

Synergistic Approaches to Lignocellulosic Biomass Research

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY

SUNDAY EVENING

Value-Added Derivatives from Agro-Based Raw Materials

Sponsored by AGFD, Cosponsored by POLY

MONDAY MORNING

SECTION A

Westin Boston Waterfront
Carlton

Industrial Polymer Scientist Award Symposium in honor of Qinghuang Lin

C. Lipscomb, *Organizer*

C. L. Soles, A. F. Yee, *Presiding*

8:00 Introductory Remarks.

8:10 POLY 101. Organic materials for energy storage. *Z. Bao*

8:40 POLY 102. Transport in confined polymer films: How chemically amplified photoresists at IBM spawned a decade of thin film transport research at NIST. *C.L. Soles*

9:10 POLY 103. Lyotropic liquid crystalline conjugated polymers with directed self-assembly and alignment capability for plastic electronics. *J. Kim, B. Kim, K. Chung, D. Yang, J. Kim, G. Jang, J. Chung, E. Jeang, M. Kwon, B. Koo, S. Seo, M. Barlog, T. Lee, M. AH-Hashimi*

9:40 Intermission.

10:00 POLY 104. Investigating antimicrobial properties of nanotextured surfaces for wound bandages against resistant infections. *R. Rosenzweig, V.K. Ly, M. Marshal, S. Abbondante, K. Perinbam, E. Pearlman, A.F. Siryaporn, A.F. Yee*

10:30 POLY 105. Commercial aspects of ATRP. *K. Matyjaszewski*

11:00 POLY 106. Polymer fibrils, transport pathways and stretchable electronics. *E. Reichmanis, G. Zhang, M. McBride*

11:30 POLY 107. Industrial Polymer Research for Nanoelectronics. *Q. Lin*

SECTION B

Westin Boston Waterfront
Griffin

Vitrimers & Other Covalent Adaptable Networks

Vitrimers

C. Bowman, F. E. Du Prez, *Organizers, Presiding*

8:00 POLY 108. Ionic vitrimers through trans-N-alkylation covalent exchanges. *M. Obadia, A. Jourdain, D. Montarnal, E. Drockenmuller*

8:30 POLY 109. Formation of crosslinked networks through sintering of vitrimer nanoparticles. *D. Montarnal, E. Bourgeat-Lami, T. Tran, E. Rawstron*

9:00 POLY 110. Reprocessable rubbers from PDMS vitrimers. *Y. Spiesschaert, L. Imbernon, F.E. Du Prez*

9:20 POLY 111. Vitrimers can be dissolved into cyclic molecules via dynamic bond exchange. *J. Wang, J.A. Johnson*

9:40 Intermission.

9:55 POLY 112. Epoxy and polyester-based vitrimers and composites. *F. Tournilhac*

10:25 POLY 113. Transforming thermoplastics into vitrimers. *R. Nicolay*

10:55 POLY 114. Low T_g fluorinated vitrimers for high performance applications. *M. Guerre, C. Taplan, F.E. Du Prez*

11:15 POLY 115. Catalyst-free vitrimers from vinyl-derived polymers. *J.J. Lessard, L.F. Garcia, C.P. Easterling, M.B. Sims, K.C. Bentz, S. Arencibia, D.A. Savin, B.S. Sumerlin*

SECTION C

Westin Boston Waterfront
Commonwealth Ballroom C

TOSOH Lectures

Interface of Polymer Science & Biology

Cosponsored by PMSE

M. A. Daniele, J. Foster, *Organizers*E. B. Berda, *Organizer, Presiding*P. Besenius, *Presiding*

8:00 POLY 116. Developing materials for drug capture: An approach to removing chemotherapy agents from the bloodstream. *M.D. Schulz, O. Wadsworth, S. Oyala-Reynoso, S. Hetts*

8:20 POLY 117. Analysis and culture of cells at the interface between immiscible solutions of polymers. *C.J. Luby, C. Mace*

8:40 POLY 118. 3D printing of fully degradable materials. *A.P. Dove*

9:00 POLY 119. Amphiphilic silicones with broad-Spectrum anti-fouling behavior. *M. Grunlan, B.K. Ngo*

9:30 Intermission.

10:00 POLY 120. Transient hydrogels mediated by redox-responsive supramolecular polymerization. *D. Spitzer, L. Lucas Rodrigues, P. Besenius*

10:30 POLY 121. Polymer-protein conjugates and protein-loaded polymersomes. *C.A. Figg, B.S. Tucker, T. Kubo, R.N. Carmean, B.S. Sumerlin*

11:00 POLY 122. Functional polymer nanostructures. *R.K. O'Reilly*

SECTION D

Westin Boston Waterfront

Marina Ballroom III

Polymer Chemistry for Functional Materials

G. N. Tew, F. Wiesbrock, *Organizers*A. Böker, *Organizer, Presiding*

8:00 POLY 123. Light responsive soft nano-objects. *S.A. Santer*

8:30 POLY 124. Negative photochromic polymer conjugates. *Z.A. Page, S. Ulrich, J.R. Hemmer, K. Clark, Y. Diaz, F. Stricker, N. Dolinski, O. Riñeira-Graham, N. Bruns, L. Boesel, C.J. Hawker, J. Read De Alaniz*

8:45 POLY 125. Sustainable, photocurable acrylates based on natural phenolics for stereolithography 3D printing. *R. Ding, Y. Du, R. Goncalves, L. Francis, T.M. Reineke*

9:00 POLY 126. Stereoselective photoredox ring-opening polymerization to prepare functional polyesters. *R. Tong*

9:15 POLY 127. Organocatalyzed atom transfer radical polymerization for functional polymer design and production. *B. Buss, G. Miyake*

9:30 POLY 128. Combinatorial discovery of antimicrobial copolymers using "in-air" photochemical RAFT polymerization. *S. Richards, M.I. Gibson*

9:45 POLY 129. Adjusted surfaces: Tailoring the isoelectric point via modification of ester-functionalized poly(2-oxazoline)s. *R. Hofmann, I. Mühlbacher, F. Wiesbrock*

10:00 Intermission.

10:30 POLY 130. Reactivity-property relationships in photocontrolled polymer networks. *J.A. Kalow*

11:00 POLY 131. Utilizing the chemical toolbox for the synthesis of catechol-based polymers for the assembly of functional metal phenolic networks. *S.L. Kristufek, J.J. Richardson, K. Reidy, J. Quinn, T. Davis, F. Caruso*

11:15 POLY 132. Mechanics, structure, and fracture of super-soft tunable bottlebrush polymer networks prepared by ROMP. *J.M. Sarapas, E. Chan, K. Beers*

11:30 POLY 133. Novel polymer metal organic cage networks for applications in synthesis and drug delivery. *N.J. Oldenhuis, J.A. Johnson*

11:45 POLY 134. Optimizing anion exchange membrane properties using networks made from telechelic polymers. *M. Kwasny, G.N. Tew, M.A. Hickner*

SECTION E

Westin Boston Waterfront

Grand Ballroom C

General Topics: New Synthesis & Characterization of Polymers

D. Garcia, *Organizer*J. Duhamel, A. Tonelli, *Presiding*

8:00 POLY 135. Thermal and mechanical properties of new high-sulfur-content copolymers of Bisphenol A. *T. Thiouann, A.G. Tennyson, R.C. Smith*

8:20 POLY 136. Characterization of crosslinked alkali-swellaible terpolymers by FFF-MALS. *Z. Li*

8:40 POLY 137. Combined characterization of polymers and polymer formulations using multi-detector GPC and rheology. *V. Shahi, M. Potheccary, J. Casola, C. Rohn*

9:00 POLY 138. Polymer microstructures and material properties: Relevant relations. *A. Tonelli*

9:20 POLY 139. Synthesis and characterization of ultra-high molecular weight hyperbranched polyglycerols. *S. Abbina, A. Parambath, L. Takeuchi, J.N. Kizhakkedathu*

9:40 POLY 140. Simultaneous real-time measurement of analyte partitioning and polymer brush conformation using whispering gallery mode sensors. *K.A. Serrano, S. Wetzler, L. Kiskey, A. Stanton, N.W. Reed, P.V. Braun, R.C. Bailey*

10:00 POLY 141. Temperature-dependent changes in the hydrogen bonded hard segment network and microphase morphology in a model polyurethane: Experimental and simulation studies. *E. Yildirim, E. Yilgor, M. Yurtsever, I. Yilgor*

10:20 POLY 142. Living additive manufacturing: Transformation of parent gels into diversely functionalized daughter gels made possible by visible light photoredox catalysis. *Y. Gu, M. Chen, J.A. Johnson*

10:40 POLY 143. Designing polymers to tune interfaces in 3D printing: From all-aromatic polyimides to poly(dimethyl siloxane) elastomers. *J. Herzberger, P. Scott, J. Serrine, N. Chartrain, V. Meenakshisundaram, C.B. Williams, T.E. Long*

11:00 POLY 144. Pyrene excimer fluorescence yields the same structural and dynamic information on macromolecules as FRET but in a mathematically much simpler manner. *J.L. Thoma, J. Duhamel*

11:20 POLY 145. Connecting polymer chemical structures and their glass transition temperatures and dynamic fragilities: a conformational approach. *J. Shen, S. Li, Y. Caydamli, A. Tonelli*

11:40 POLY 146. Introduction of a new purification method for the removal of a contaminant in commercial PMMA by using urea and N,N'-dimethylurea. *S. Li, J. Shen, A. Tonelli*

SECTION F

Westin Boston Waterfront

Otis

Ionic Liquids in Polymer Science & Engineering: From Molecular Design to Energy & Beyond

T. E. Long, D. Macerreyes, J. Yuan, *Organizers*K. M. Miller, *Organizer, Presiding*

8:00 Introductory Remarks.

8:10 POLY 147. Ionic liquids inspiring next generation ion-containing polymers. *T.E. Long, M. Chen, X. Chen, P. Scott*

8:50 POLY 148. Porous ionic liquids: Challenges and opportunities. *P. Li, J. Zhang, S.M. Mahurin, H. Luo, S. Dai*

9:30 POLY 149. Poly(ionic liquid)/ionic liquid composites based on curable ionic liquid prepolymers for organic toxic industrial chemical hazard mitigation. *D.L. Gin, D.I. Mori, R.D. Noble*

10:10 Intermission.

10:40 POLY 150. Functional ion gels. *T.P. Lodge*

11:20 POLY 151. Ionic liquid platform for electrospinning biopolymers. *R.D. Rogers*

Porous Polymers

Mesoporosity

Sponsored by PMSE, Cosponsored by POLY

Rational Design of Multifunctional Renewable-Resourced Materials

CNC/CNF Nanocellulose Composites

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Structure & Assembly of Food Biopolymers

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Surface, Interface & Coating Materials

Synthesis & Fabrication

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MONDAY AFTERNOON

SECTION A

Westin Boston Waterfront

Carlton

Vitrimers & Other Covalent Adaptable Networks

Light Induced & Other Activated Dynamic Chemistry

C. Bowman, F. E. Du Prez, *Organizers, Presiding*

1:00 POLY 152. Design and synthesis of adaptive dynamic covalent polymers. *S.J. Rowan*

1:30 POLY 153. Photoinitiated thioester-containing polymer networks: Bistable, photoinduced (de)activation of dynamic covalent chemistry and fluid-solid transitions. *C. Bowman*

2:00 POLY 154. Reprocessable polyhydroxyurethane network composites: Effect of filler surface functionality on reprocessability and stress relaxation behavior. *X. Chen, L. Li, J.M. Torkelson*

2:20 POLY 155. Healing properties in hybrid polymers: impact of the metal-ligand bonds' strength. *A. Duhamel, G. Penvern, N. Donnat, P. Bonnardel, J. Joseph, L. Nicole, L. Rozes*

2:40 Intermission.

2:55 POLY 156. Switching polymer network topology with light. *Y. Gu, E.A. Alt, H. Wang, X. Li, A. Willard, J.A. Johnson*

3:25 POLY 157. Viscoelastic hydrogels based on boronate esters for understanding cell-matrix signaling. *S. Tang, H. Ma, P. Lin, K.S. Anseth*

3:55 POLY 158. Externally activated thiol-Michael chemistry for stable yet adaptable networks. *D. Konkolewicz, C. Progyateg, B. Zhang, J. Ke, Z. Digby, M. Shulman, J. Via, J. Sparks*

4:25 POLY 159. Photo-controlled growth of crosslinked nano-networks. *M.W. Lampley, E. Harth*

SECTION B

Westin Boston Waterfront

Griffin

Industrial Innovations in Polymer Science

Financially supported by POLY Industrial Advisory Board

M. O. Hunt, C. Lipscomb, *Organizers*S. A. Eastman, *Presiding*

2:00 POLY 160. Understanding structure and property of PAEK polymers and their application in Additive Manufacturing processes. *M. Garcia*

2:30 POLY 161. High throughput screening and design of experiments: How to obtain predictive models for thermoplastic blends and compounds. *G. Maier*

3:00 Intermission.

3:30 POLY 162. Polymeric hands at work: Design tools in the synthesis of multifunctional nanomaterials. *R. Sivarajan, E. Jackson, J. Jaddou, M. Ricci, H. Richter, C. Treacy, X. Xue*

4:00 POLY 163. Understanding CNT-polymer composites on a molecular level. *A.E. Hart*

4:30 POLY 164. Polymeric material considerations for electrocaloric-based thermal management. *S.A. Eastman, J. Mantese, W. Xie, R. Annapragada, H. Pan, M.J. Sobkowicz*

SECTION C

Westin Boston Waterfront

Commonwealth Ballroom C

TOSOH Lectures

Nanocomposites & Nanostructured Materials

Cosponsored by PMSE

E. B. Berda, J. Foster, *Organizers*M. A. Daniele, *Organizer, Presiding*E. Pentzer, *Presiding*

1:00 POLY 165. Using the assembly of 2D particles at fluid-fluid interfaces to architect composite materials. *Q. Luo, P. Wei, E. Pentzer*

1:30 POLY 166. Structure of soft nanoparticles in solvents and melts: Correlation of nanoparticle structure to nanocomposite dynamics. *H. Martin, T. Saito, M.D. Dadmun*

2:00 POLY 167. Crystallization of polyamide 11/cellulose nanocrystalline composites across a broad range of supercooling. *A.M. Rhoades, A.M. Gohn, P. Venkatraman, J. Foster*

2:30 POLY 168. Nanobrick wall nanocomposites with super gas barrier properties. *J.C. Grunlan, Y. Song, T. Guin, D. Hagen, S. Qin*

3:00 Intermission.

3:30 POLY 169. Thin-film structures based on graphene oxide—models for the ideal polymer-graphene oxide nanocomposites. *S.T. Nguyen*

4:00 POLY 170. Dynamic emission tuning of X-ray radioluminescent dye-doped crystalline colloidal arrays. *M.K. Burdette, I. Bandera, S.H. Foulger*

4:30 POLY 171. Network expansion and the effect on the macromolecular structure. *E. Harth*

5:00 POLY 172. Bio-inspired nanocomposites. *S.J. Rowan*

SECTION D

Westin Boston Waterfront

Marina Ballroom III

Polymer Chemistry for Functional Materials

A. Böker, G. N. Tew, F. Wiesbrock, *Organizers*S. A. Santer, *Presiding*

1:00 POLY 173. Polymer science for an overall study of micro and nanoplastic hazards: Sources, fate and effects. *S. Reynaud, B. Grassl, H. El-Hadri, J. Gigault*

1:30 POLY 174. Charge-shifting polycations with tunable rates of hydrolysis. *S. Ros, R.M. Kleinberger, N.A. Burke, N.A. Rossi, H.D. Stover*

1:45 POLY 175. Relationship between PDMS architecture and anti-smudge properties in a polyurethane coating. *B. Becher Nienhaus, H. Hu, G. Liu*

2:00 POLY 176. Synthesis of antimicrobial poly(guanylurea)s. *J. Moon, M. Ahmed*

2:15 POLY 177. Synthesis of polymer gradient Materials in ultracentrifugal fields. *A. Spinnrock, H. Cölfen*

2:30 POLY 178. New approaches to amphiphilic polymer conetworks with broad cocontinuous phase compositions. *G.N. Tew*

3:00 Intermission.

3:30 POLY 179. Mini monomer encapsulated emulsion polymerization of PMMA using ARGET ATRP. *C.K. Ober, R. Cordero, A. Jawaid, M. Hsiao, Z. Lequeux, R.A. Vaia*

4:00 POLY 180. Shell cross-linked micelles (SCM)s as nanoreactors for enantioselective three step tandem catalysis. *M. Kuepfert, M. Weck*

4:15 POLY 181. Polyanion complex micelles functionalized with a cell penetrating peptide for plant gene delivery. *T. Miyamoto, K. Tsuchiya, K. Numata*

4:30 POLY 182. Understanding the interaction of cyclic peptide polymer nanotubes with mammalian cells. *S.H. Ellacott, S. Perrier*

4:45 POLY 183. Biodegradable polymeric nanoparticles for modulating lysosomal pH. *J. Zeng, K. Lopes, O. Shirihi, M.W. Grinstaff*

SECTION E

Westin Boston Waterfront
Grand Ballroom C

Block Polymer Synthesis & Nanoscale Self-Assembly

N. Balsara, N. A. Lynd, G. Stein, C. G. Willson, *Organizers*
J. Qin, *Presiding*

1:00 Introductory Remarks.

1:05 POLY 184. Phase behavior of mixtures of block copolymers and a lithium salt. *N.P. Balsara*

1:30 POLY 185. Controlling the dynamics of self-assembling cyclic peptide-polymer nanotubes. *J. Rho, S. Perrier*

1:50 POLY 186. Secondary structure-driven self-assembly of reactive polypept(oid)s for cross-linked polymeric micelles with defined core polarity and function. *T.A. Bauer, K. Klinker, O. Schäfer, M. Barz*

2:10 POLY 187. Stimuli-responsive nanoassemblies from metallo-supramolecular coordination polymers. *T. Elkin, S.M. Copp, G.A. Montano, J.S. Martinez, R.C. Rocha*

2:30 POLY 188. Solvation and dilution regimes in morphological behaviors of ion-doped block copolymers. *J. Qin*

3:00 Intermission.

3:30 POLY 189. Ionic and non-spherical diblock copolymer nano-objects in non-polar solvents. *G. Smith, S.L. Canning, S.P. Armes*

3:50 POLY 190. Magnetic sugar-based nanocomposites for environmental remediation. *M. Dong, L. Su, J.A. Flores, H. Wang, Y. Song, Y. Chen, K.L. Wooley*

4:10 POLY 191. Chemorheology of polymerization in nano-confined structures of self-assembled block copolymers. *S. Qavi, A. Bandegi, R. Foudazi*

4:30 POLY 192. Electron- and ion-conducting block copolymers as binders for battery cathodes. *J.L. Lutkenhaus*

SECTION F

Westin Boston Waterfront
Otis

Ionic Liquids in Polymer Science & Engineering: From Molecular Design to Energy & Beyond

D. Macerreyes, K. M. Miller, J. Yuan, *Organizers*
T. E. Long, *Organizer, Presiding*

1:00 POLY 193. The design and synthesis of ultra-high performance ionenes and their interactions with ionic liquids. *J.E. Bara, K.E. O'Harra, G.P. Dennis, M.M. Durbin, H. Turner, E.M. Jackson*

1:35 POLY 194. Influence of pendant alkyl chain on the conductive and gas permeability properties of thiol-ene poly(ionic liquid) networks. *K.M. Miller*

2:10 POLY 195. Saturated N-heterocyclic cationic multiblock polymers as solid-state separators in alkaline fuel cells and lithium ion batteries. *Y.A. Elabd, K.M. Meek, R. Sun, M. Hwang, T. Chen, C.L. Willis*

2:45 Intermission.

3:15 POLY 196. Advanced materials based on polymers and ionic liquids. *M. Watanabe*

3:50 POLY 197. The role of multivalent ions on the mechanics and ionic conductivity of metal-ligand coordinating PILs. *R.A. Segalman*

4:25 POLY 198. Redox responsive polyionic liquids and their hydrogels with transition metals: Molecular design and applications as "smart" materials. *G. Vancso, K. Zhang, M.A. Hempenius*

Porous Polymers

Microporosity

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Rational Design of Multifunctional Renewable-Resourced Materials

Synthesis of Renewable Materials

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Structure & Assembly of Food Biopolymers

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Undergraduate Research Posters

Polymer Chemistry

Sponsored by CHED, Cosponsored by PMSE, POLY and SOCED

Surface, Interface & Coating Materials

Theory, Simulation & Mechanism Study

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TUESDAY MORNING

SECTION A

Westin Boston Waterfront
Carlton

Vitrimers & Other Covalent Adaptable Networks

Applications

C. Bowman, F. E. Du Prez, *Organizers, Presiding*

8:00 POLY 199. Stress relaxation in urethane-containing polymer networks. *W.R. Dichtel, J.P. Brutman, D.J. Fortman, G. De Hoe, M.A. Hillmyer*

8:30 POLY 200. Imine-linked vitrimers applied to lightweight advanced composites. *P.J. Taynton*

9:00 POLY 201. Semi-crystalline vitrimers via solid state polymerization. *J.P. Heuts, Y. Zhou, R.P. Sijbesma, H. Goossens*

9:30 POLY 202. Poly(butylene terephthalate) (PBT)-based vitrimers: Industrial view. *H. Goossens*

10:00 Intermission.

10:15 POLY 203. Thermadappt shape memory hybrid materials with healing properties. *M. Jannot, S. Delalande, F. Szymtyka, L. Rozes*

10:45 POLY 204. Dynamically crosslinked shape memory polymer network. *T. Xie*

11:15 POLY 205. Dynamic polymer networks and network composites: Reprocessing leading to full property recovery associated with cross-link density for models of rubber tires and non-isocyanate polyurethane networks and a quantitative approach to suppress creep in vitrimers. *J.M. Torkelson, L. Li, K. Jin, X. Chen*

11:45 POLY 206. Hybrid materials: A concept for healing networks. *A. Tonnelier, S. Delalande, R. Perrin, L. Nicole, L. Rozes*

SECTION B

Westin Boston Waterfront
Griffin

Polymers for Defense Applications

J. A. Orlicki, J. H. Wynne, *Organizers*
S. T. Iacono, R. H. Lambeth, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 POLY 207. Advancement of bio-based polymers and composites for military applications: Pushing the envelope via strategic assemblies of xylochemicals. *J.F. Stanzione, G.R. Palmese, J.M. Sadler, J. La Scala*

8:30 POLY 208. Dielectric properties of bio-based diphenolate ester epoxies. *M. McMaster, T. Yilmaz, A. Patel, A. Maiorana, I. Manas-Zloczower, R.A. Gross, K.D. Singer*

8:55 POLY 209. Advances in efficient strategies towards high use temperature polymers and networks from fluoroalkenes. *C.A. Corley, A.R. Jennings, S.T. Iacono*

9:20 POLY 210. Novel dynamic covalent polymer networks and their functional composites with reheatlability and full recyclability. *W. Zhang*

9:45 POLY 211. Cross-linked polymer networks that selectively and controllably disassemble on-demand via cascading bond cleavage. *G.C. Daniels, E. Camerino, J.H. Wynne, E.B. Iezzi*

10:05 Intermission.

10:30 POLY 212. Rate dependent mechanics of crosslinked polymer networks. *J. Lenhart*

10:55 POLY 213. Polynaphthalene networks and semi-fluorinated aromatic ether polymers and for advanced composites. *G. Narayanan, A. Sygula, D.W. Smith*

11:20 POLY 214. Bridging the vast mismatch in the time scale of atomistic simulations and experiment for cross-linked epoxy using time-temperature superposition. *K.S. Khare, F.R. Phelan*

11:40 POLY 215. Specific energy absorption of freestanding glassy homopolymer and homopolymer grafted nanoparticle thin films at extreme strain rates. *J. Hyon, E.L. Thomas, J. Streit, R.A. Vaia*

SECTION C

Westin Boston Waterfront
Commonwealth Ballroom C

TOSOH Lectures

Nanostructured Polymers

Cosponsored by PMSE

M. A. Daniele, J. Foster, *Organizers*
E. B. Berda, *Organizer, Presiding*
R. S. Klausen, M. M. Thuo, *Presiding*

8:00 POLY 216. Characterization of polyolefins with precise control of branch frequency and branch length. *S.V. Orski, W. Farrell, K. Beers*

8:30 POLY 217. Using the higher moments of a polymer's molecular weight distribution to tune properties. *B.P. Fors*

9:00 POLY 218. Novel strategy for radical ring-opening polymerization of strainless macrocyclic monomers. *J. Niu*

9:30 POLY 219. Rapid bimolecular synthesis and self-assembly of block co-polymers using free electron initiators. *M.M. Thuo, B.S. Chang*

10:00 Intermission.

10:30 POLY 220. Tunable polymer nanostructures enabled by controlled branching. *M. Zhong, Z. Guo, F. Li, A. Le, M. Cao*

11:00 POLY 221. An organoborane strategy for tunable polar content in polystyrene. *R.S. Klausen*

11:30 POLY 222. Nanostructured polymers by ATRP. *K. Matyjaszewski*

SECTION D

Westin Boston Waterfront
Harbor Ballroom III

Polymer Chemistry for Functional Materials

A. Böker, G. N. Tew, F. Wiesbrock, *Organizers*
S. Reynaud, *Presiding*

8:00 POLY 223. Heterobifunctional linear-dendritic block copolymers (LDBCs) as multifunctional carriers for targeted drug therapy. *D.L. Watkins*

8:30 POLY 224. Tailoring the hydrophobic/hydrophilic balance of functional materials. *R.T. Mathers*

8:45 POLY 225. Practical prediction of monomer composition and drift in controlled radical polymerizations. *A.A. Smith, V. Wu, A. Hall, T. Xu*

9:00 POLY 226. Designing acrylic ABA triblock copolymers with multiple hydrogen bonding or multiple ionic bonding. *X. Chen, K. Zhang, K. Drummey, T.E. Long*

9:30 POLY 227. Functionalized hyperbranched polyglycerol polymers for applications in scale inhibition. *B.A. Walker, S.C. Zimmerman*

9:45 POLY 228. Crystallization and thermal property control of metallo-supramolecular polyesters prepared via multiple coordination bonds. *K. Shibata, M. Hayashi, A. Takasu*

10:00 Intermission.

10:30 POLY 229. Incorporation of biological functions into polymer materials: The use of protein-polymer-conjugates. *A. Böker, H. Charan, U. Glebe, S. Reinicke*

11:00 POLY 230. Tailored mucoadhesive emulsions for the delivery of therapeutic agents. *S. Edwards, H. Cauldbeck, M. Al-Baldawi, R. Williams, M. Gumbleton, S. Rannard*

11:15 POLY 231. Supramolecular polymers based on zwitterionic N-heterocyclic carbene carbodiimide (NHC-CDI) linkages. *N. Gallagher, J.A. Johnson, H.V. Nguyen, A.V. Zhukhovitskiy*

11:30 POLY 232. Flex activated mechanocatalysts based upon N-heterocyclic carbene adducts. *A.J. Boydston, P. Lu*

11:45 POLY 233. Chain-growth type (hyper)branched radical copolymerization: A promising approach to functional materials with controlled incorporation of branching motifs. *F. Li, M. Cao, Y. Feng, M. Zhong*

POLY

SECTION E

Westin Boston Waterfront
Grand Ballroom C

Block Polymer Synthesis & Nanoscale Self-Assembly

N. Balsara, N. A. Lynd, G. Stein, C. G. Willson, *Organizers*
A. Rosales, *Presiding*

8:00 POLY 234. Mikroarm architectural effects in block polymer self-assembly. *C. Bates*

8:30 POLY 235. Linear and linear-hyperbranched block copolymers by continuous flow chemistry polymerizations. *R.C. Advincula*

8:50 POLY 236. Rapid morphological transitions in poly(butadiene-*b*-ethylene oxide) aggregates induced by olefin metathesis. *B. Jones, G.D. Bachand, S. Shin, M.A. Firestone, W. Paxton*

9:10 POLY 237. Responsive triblock copolymer particles with tuneable size and shape. *E. Bobbi, S. Cryan, A. Heise*

9:30 POLY 238. Tapered block polymers: Manipulating monomer segment distributions to tune self-assembly and macromolecular properties. *T.H. Epps*

10:00 Intermission.

10:30 POLY 239. Structural evolution from AB/ABC block copolymers to AB/ABC-segmented particles. *X. Huang, Z. Zhang, D. Chen*

10:50 POLY 240. Janus graft block copolymers: Design of polymer architecture for independently tuned nanostructures and polymer properties. *A. Le, Z. Guo, X. Feng, Y. Choo, B. Liu, D. Wang, Z. Wan, Y. Gu, J. Zhao, V. Li, C.O. Osuji, J.A. Johnson, M. Zhong*

11:10 POLY 241. Monolayer arrays of nanoparticles using block copolymer brush templates. *H. Zhu, J. Masson, C. Bazuin*

11:30 POLY 242. Quantitatively accurate simulations for block copolymer melts. *M. Matsen*

SECTION F

Westin Boston Waterfront
Otis

Ionic Liquids in Polymer Science & Engineering: From Molecular Design to Energy & Beyond

T. E. Long, D. Macerreyes, K. M. Miller, J. Yuan, *Organizers*
D. Johnson, *Presiding*

8:00 POLY 243. PIL by condensation – Resins, dispersions, and stabilizers. *J. Texter*

8:35 POLY 244. Morphological and thermal characterization of polysaccharides/protein biocomposites regenerated from ionic liquids. *D. Salas-de la Cruz, J. Stanton, D.E. Verrill, X. Hu*

9:10 POLY 245. Poly(ionic liquid)s as unique materials for energy related applications. *A.S. Shaplov*

9:45 Intermission.

10:15 POLY 246. Poly(1,2,3-triazolium ionic liquid)s: A new class of functional polymer electrolytes. *M. Obadiah, A. Jourdain, A. Sergei, E. Drockenmuller*

10:50 POLY 247. Assemblies of linear and branched poly(ionic liquid)s. *V.V. Tsukruk*

11:25 POLY 248. Stable covalently photo-cross-linked porous poly(ionic liquid) membrane with gradient pore size. *A. Dani, K. Taeuber, W. Zhang, H. Schlaad, J. Yuan*

Porous Polymers**Macroporosity**

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Rational Design of Multifunctional Renewable-Resourced Materials**Nanoparticle Structures & Properties**

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TUESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Carlton

Materials Genome Approach to Structure & Function Frank-Kasper Phases & Other Assemblies

M. L. Klein, V. Percec, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 POLY 249. Engineering CNDPs of soft superatoms to produce new emerging properties such as terahertz radiation generators or non-traditional intrinsic fluorescence (NTIF). *D.A. Tomalia*

1:40 POLY 250. Topological engineering of giant molecules toward unconventional structures and functions. *S.Z. Cheng*

2:15 POLY 251. Frustration-induced self-assembly of simple molecular amphiphiles into complex liquid crystalline Frank-Kasper phases. *M.K. Mahanthappa*

2:50 Intermission.

3:25 POLY 252. Crystals, liquid crystals, plastic crystals, & more.... *M.L. Klein*

4:00 POLY 253. Precision synthesis of supramolecular materials using multicomponent reactions. *J.G. Rudick*

4:35 POLY 254. Bottom up design of materials: The utility of bicyclic ring structures. *T.M. Swager*

SECTION B

Westin Boston Waterfront
Griffin

Polymers for Defense Applications

S. T. Iacono, R. H. Lambeth, *Organizers*

J. A. Orlicki, J. H. Wynne, *Organizers, Presiding*

1:00 POLY 255. Next generation coatings for DOD. *J.A. Escarsega*

1:25 POLY 256. Smart corrosion-inhibiting coatings for department of navy applications. *P. Zarras, J.D. Stenger-Smith, P.A. Goodman, A. Baca, R. Quintana, L. Cambrea, L. Baldwin, T.M. Dames, A.M. Hughes, Q. Nguyen, J. Lechter, A. Chafin, D.T. Connor, J.C. Amato*

1:50 POLY 257. Multicomponent transport and extraction of chemical species in polyurethane. *D. Boyne, M. Varady, R.H. Lambeth, J.H. Eikenberg, S. Bringuier, T.P. Pearl, B.A. Mantoath*

2:15 POLY 258. Surface and interfacial influences on the bulk mechanical responses of polymeric composites. *S.M. Manni, E. Carbone, T. Kosta, S. Pemberton*

2:40 POLY 259. Roll-to-roll deposition of functional polymers onto fibers. *C. Cheng, M. Gupta*

3:00 Intermission.

3:30 POLY 260. Mechanistic impact of water on M5 structure and properties. *S. Lustig*

3:55 POLY 261. Impact of amino acid residue on biohybrid activity: Asp/Glu Vs Lys. *S. Averick, M. Kovaliov*

4:20 POLY 262. Catechol-functionalized bioinspired synthetic adhesives: Effect of comonomer composition on adhesive properties. *S. Radzinski, M. Bartucci, D.P. Flanagan, J. Lenhart, J.A. Orlicki*

4:40 POLY 263. Revisiting lignin-based fibers: Understanding gel-fiber spinning, structure and property relationships. *E. Ford, C. Lu, C. Blackwell*

SECTION C

Westin Boston Waterfront
Commonwealth Ballroom C

TOSOH Lectures**Nanostructured Polymers**

Cosponsored by PMSE

J. Foster, *Organizer*

E. B. Berda, M. A. Daniele, *Organizers, Presiding*
W. R. Gutekunst, *Presiding*

1:00 POLY 264. Poly(oligonucleotide) - Bringing phosphodiester oligonucleotides to polymer chemistry. *K. Zhang*

1:30 POLY 265. Develop nanostructured hyperbranched polymers as unimolecular containers. *H. Gao*

2:00 POLY 266. New chemical approaches for ring-opening polymerization. *W.R. Gutekunst, G. Fu, M. Xu*

2:30 POLY 267. Interface-promoted assembly and disassembly processes for rapid manufacture and transport of complex hybrid nanomaterials. *K.L. Woolley*

3:00 Intermission.

3:30 POLY 268. Hyperbranched polymer nanoparticles featuring ladder-type conjugated backbones. *L. Fang, A. Kalin*

4:00 POLY 269. Peptide-based star and triblock copolymers: Dynamics of hierarchical assembly and responsiveness. *I. Smith, B. Barnes, C. Machado, D.A. Savin*

4:30 POLY 270. Preparation and application of polyesters with controlled branching. *S.M. Grayson*

5:00 POLY 271. Combining organic synthesis and polymer chemistry for new functional macromolecular architectures. *C.J. Hawker*

SECTION D

Westin Boston Waterfront
Harbor Ballroom III

Polymer Chemistry for Functional Materials

A. Böker, G. N. Tew, F. Wiesbrock, *Organizers*

L. M. Watkins, *Presiding*

1:00 POLY 272. RAFT/MADIX approaches to new cryoprotective polymers. *C. Stubbs, G. Hedir, N. Vail, M.I. Gibson, A.P. Dove*

1:30 POLY 273. Antibody-recruiting polymers. *B. De Geest, R. De Coen, A. Uvyn*

1:45 POLY 274. Hydrogels from amorphous calcium carbonate and polyacrylic acid: bio-inspired materials for "mineral plastics". *S. Sun*

2:00 POLY 275. Acid-cleavable polyethylene glycol hydrogels for on-demand release of active molecules. *J. Herzberger, R.R. Brown, C. Tian, E. Wilts, T.E. Long*

2:15 POLY 276. Custom poly(oxazoline)s for the stabilization and functionalization of PFC nanoemulsions. *D. Estabrook, E.M. Sletten*

2:30 POLY 277. Enzyme-degradable hydrogels based on copoly(2-oxazoline) networks. *F. Wiesbrock, K.P. Luef, B. Ottersböck, G. Oreski, C. Petit, B. Grassl, S. Reynaud*

3:00 Intermission.

3:30 POLY 278. Block copolymers in confinement. *A. Steinhilber, R. Chakroun, X. Qiang, M. Müllner, A. Gröschel*

4:00 POLY 279. Mechanistic kinetic modeling of thiol-Michael addition reactions: Structural effects of thiol and vinyl monomers. *S. Huang, J. Sinha, M. Podgorski, X. Zhang, C. Bowman*

4:15 POLY 280. Direct synthesis of nanoparticles with spatial heterogeneity for tailored cellular interactions. *F.Y. Hern, L. Tatham, A. Owen, S. Rannard*

4:30 POLY 281. Radiopaque stents based on electrospun iodixanol/polycaprolactone nanofibrous composites. *M.P. Melancon, L. Lu, L. Tian, Y. Qiao, J. Gu, B. Singhana*

SECTION E

Westin Boston Waterfront
Grand Ballroom C

Block Polymer Synthesis & Nanoscale Self-Assembly

N. Balsara, N. A. Lynd, G. Stein, C. G. Willson, *Organizers*
L. M. Hall, *Presiding*

1:00 POLY 282. Effects of morphology on diffusion through block copolymers from coarse-grained modeling. *L.M. Hall*

1:30 POLY 283. Self-assembly of stimuli-responsive polymers for optical sensing materials and smart porous membranes. *M. Gallei*

1:50 POLY 284. Synthesis and colloidal self-assembly of PNBE-PEO amphiphilic block polymers. *C. Lang, J. LaNasa, M. Kumar, R. Hickey*

2:10 POLY 285. Impact of external fields on structural transitions in diblock and triblock copolymer aqueous solutions. *C.S. Valentine, L. Walker*

2:30 POLY 286. Design rules of efficient ion conducting polymers: From block copolymers to single-ion polymers. *M. Park*

3:00 Intermission.

3:30 POLY 287. Tunable structural properties of block copolymer micelles. *M.L. Robertson, T. Cooksey, X. Li, B. Kidd, A. Singh, L.A. Madsen*

3:50 POLY 288. PEGylated amphiphilic block copolymers as membrane anchors for controlled affinity to lipid bilayer membranes. *Y. Koda, D. Takahashi, Y. Sasaki, K. Akiyoshi*

4:10 POLY 289. Life of the polyelectrolyte: Complexation, evolution, and disassembly. *J. Ting, H. Wu, M.V. Tirrell*

4:30 POLY 290. Ionic core micelles from block copolymers and engineered proteins. *A. Obermeyer, C. Cummings, R. Kapelner*

SECTION F

Westin Boston Waterfront
Otis

Ionic Liquids in Polymer Science & Engineering: From Molecular Design to Energy & Beyond

T. E. Long, D. Macerreyes, K. M. Miller, *Organizers*

J. Yuan, *Organizer, Presiding*

1:00 POLY 291. Double helix polyanion plus ionic liquid: Molecular ionic composites. *L.A. Madsen*

1:25 POLY 292. Nanoscale resolution of electric-field induced motion in ionic copolymer films. *B.S. Lokitz, J. Dugger, W. Li, R. Kumar, L. Collins, N. Balke, J. Browning*

1:50 POLY 293. 3D-printed imidazolium-containing thiolene poly(ionic liquid) networks. *R.D. Johnson*

2:15 POLY 294. Beyond spherical assemblies of hyperbranched poly(ionic liquid)s. *V. Korolovych, A.J. Erwin, H. Lee, A. Stryutsky, W. Heller, V. Shevchenko, L. Bulavin, V.V. Tsukruk*

2:40 Intermission.

3:10 POLY 295. Water dissolution in ionic liquids between electrodes: Effects of dielectric inhomogeneity and electrostatic correlation. *I. Nakamura, H. Chen, L. An*
3:35 POLY 296. Self-propelled motion of ion gel at surfaces and interfaces. *T. Harada, K. Furukawa*
4:00 POLY 297. Poly(ionic liquid) membranes: Synthesis & applications. *F. Yan*
4:25 POLY 298. Ionic liquids as (recyclable) reaction media for the synthesis of poly(2-oxazoline)-based photoresists from renewable resources. *F. Wiesbrock, C. Petit, K.P. Luef, B. Grassl, S. Reynaud*

Porous Polymers

Mesoporosity & Macroporosity

Sponsored by PMSE, Cosponsored by POLY

Rational Design of Multifunctional Renewable-Resourced Materials

New Applications

Sponsored by CELL, Cosponsored by CARB, ENVR and POLY
Surface, Interface & Coating Materials

Smart & Responsive Coatings

Sponsored by PMSE, Cosponsored by COLL and POLY

TUESDAY EVENING

SECTION A

Boston Convention & Exhibition Center
 Exhibit Hall B2/C

Block Polymer Synthesis & Nanoscale Self-Assembly

Cosponsored by PMSE[†]

N. Balsara, N. A. Lynd, G. Stein, C. G. Willson, *Organizers*
5:00 – 7:00

POLY 299. Hydrogen bonded silicone rubber: A new additive improving self-healing. *L. Simonin, S. Pensec, L. Favre, D. Portinha, E. Fleury, F. Ganachaud, G. Falca, F. Dalmaz, J. Chenal, L. Chazeau, L. Bouteiller*
POLY 300. Synthesis of LasB-stimulus-responsive cyclic peptide-polymer-conjugates as potential antimicrobials to combat multi-drug resistant *P. aeruginosa* infections. *T. Kröber, M. Hartlieb, S. Perrier*
POLY 301. Gas-responsive self-assemblies for mimicking the alveoli. *A. Feng, J. Yuan, S.H. Thang*
POLY 302. Construction and experimental validation of a dynamic kinetic model of photo-RAFT and photo-PISA. *M. Duenas Diez*
POLY 303. Development of thermo-sensitive polymer micelle for direct injection at the targeted tumor region. *A. Makino, T. Manabe, T. Asai, H. Okazawa, Y. Kiyono*
POLY 304. Enhanced ionic conductivity in homopolymer-blended block polymer electrolytes. *M.A. Morris, T.H. Epps*
POLY 305. DNA block copolymer micelles as ultra-sensitive bio-detector. *J. Shin, Y. Choe, J. Shin, S. Li*
POLY 306. Co-nanoprecipitation of branched vinyl polymers and block co-polymers for encapsulation and delivery of poorly water soluble molecules. *C. Armstrong, A. Dwyer, P. Chambon, S. Rannard*
POLY 307. Development of tear-resistant block copolymer ion gels via mechano-catalyzed toughening mechanisms. *A.W. May, T.S. Bailey*
POLY 308. Thermal stability enhancement of ABA triblock copolymers based on morphology by photo cross-linking the A blocks. *I. Kawarazaki, M. Hayashi, A. Takasu*
POLY 309. Programmable self-assembly of amphiphilic tadpole-shaped single-chain polymer nanoparticles. *S. Thanneeru, J. He*
POLY 310. Synthesis and characterization of novel gradient copolymers by a high-throughput approach. *I. Kulai, J. Zhang, B. Farias Mancilla, J. Ulbrich, M. Destarac, U.S. Schubert, C. Guerrero-Sánchez, S. Harrison*
POLY 311. Effect of comonomer composition on the segregation behaviour of poly(butyl acrylate)-*b*-poly(methyl methacrylate-*r*-styrene) prepared by atom transfer radical polymerization. *M. Seo, S. Lee, J. Huh, H. Paik*
POLY 312. The effects of architecture on the co-nanoprecipitation of branched polyesters. *S. Blackmore, A. Dwyer, P. Chambon, S. Rannard*
POLY 313. Self-assembly of pH-responsive amine-based diblock copolymers. *H. Koata, C. Chen, N. Lee, L. Cai, A. Ringuette, C. Goh, S.L. Goh*
POLY 314. Targeting core-shell-sphere block copolymer morphology for tough, fatigue-resistant hydrogels. *A. Klug, T.S. Bailey*

POLY 315. Poly-2-oxazolines block copolymers with fluorophilic blocks: New frontiers for the design of self-assembling systems. *L. Kaberov, B. Verbraken, J. Brus, Y. Talmon, P. Stepanek, R. Hoogenboom, S.K. Filippov*
POLY 316. Block and gradient copoly(2-oxazoline) micelles: Strikingly different on the inside. *S.K. Filippov, B. Verbraken, P. Konarev, D.I. Svergun, N.S. Vishnevetskaya, C.M. Papadakis, S. Rogers, A. Radulescu, T. Courtin, J.C. Martins, L. Starovoytova, I.I. Potemkin, R. Hoogenboom*
POLY 317. Lymph node targeting acid-degradable amphiphilic polymers with π - π stabilisation. *B. De Geest, S. Van Herck*
POLY 318. Developing protein engineered injectable hydrogels for post-traumatic osteoarthritis. *P. Katyal, M. Meleties, Q. Tian, C. Liu, J.K. Montclare*
SECTION A
 Boston Convention & Exhibition Center
 Exhibit Hall B2/C

General Topics: New Synthesis & Characterization of Polymers

D. Garcia, *Organizer*

5:00 – 7:00

POLY 319. Poly(diallyldimethylammonium chloride) treatment of cotton surfaces: A Raman study. *D. Garcia, P. Pan*
POLY 320. Isocyanate-free syntheses of ureas and polyureas via ruthenium-catalyzed dehydrogenation of amines and formamides. *S.W. Paulson, C.R. Langsted, J. Aguirre, A.C. Law, B.H. Bomann, S. Suhail, N.J. Robertson, M.J. Carney*
POLY 321. Developing two-dimensional copolymerization. *W. Wang, A. Schlüter*
POLY 322. Synthesis and oxidation-promoted degradation of β -thioether containing polyester. *L. Li, F. Du, Z. Li*
POLY 323. Radical electro-copolymerization: Improvement of conductivity in furan/thiophene copolymers. *Y. Beni*
POLY 324. Solvent-free approach to the ring-opening polymerization of lactones with commercially available organocatalysts. *J.U. Pothupitiya, N.U. Dharmaratne, M.K. Kiesewetter*
POLY 325. Synthesis and characterization of novel fluorene-containing conjugated polymers. *D. Jones*
POLY 326. Mechanistic study of the ring opening polymerization of cyclic esters with varying temperature and solvent. *K. Fastnacht*
POLY 327. Gelatin based dynamic hydrogels via thiol-norbornene reactions. *M.S. Perera, N. Ayres*
POLY 328. Synthesis of polyamides and poly(ester-amides) through ring-opening polymerization catalyzed by iron alkoxide complexes. *M. Thompson, S. A. Gonsales, J.A. Byers*
POLY 329. Synthesis and characterization of drug-loaded methacrylate nanoparticles via in-situ RAFT mini-emulsion polymerization. *J.R. Rosa, L.M. Sampaio, G.C. Pinto, J.M. Perez, C.L. Petzhold, M. Oliveira*
POLY 330. Design and synthesis of novel heterocyclic building blocks based on benzo[1,2-*b*:4,5-*b'*] chalcogenophenes. *A.E. Brown, M. Jeffries-El*
POLY 331. Utilizing chemoselective, redox-switchable iron-based catalysts for the synthesis of branched PLA. *J.A. Kehl, S. Oh, J.A. Byers*
POLY 332. Functionalization to the fourth power: Towards chemoselective heterotetrafunctionalization of polymer end-groups. *R.A. Olson, C.A. Figg, T. Kubo, R.J. Wechsler, B.S. Sumerlin*
POLY 333. Thienoisindigo-based full-conjugated polymers for next generation of solar cells. *M. Comi Bonachi, S. Haw-Lih, E. Manley, T.J. Marks, H.S. Bazzi, M. Al-Hashimi*
POLY 334. Studying the effect of hydrogen bonds on an amorphous thermoplastic. *A. Sangroniz, L. Sangroniz, A. Muller, M. Iriarte, A. Santamaria, A. Etxeberria*
POLY 335. Simultaneous quantification of homopolymer and sequence analysis of copolymer in semi-crystalline fluoropolymer blends by differential scanning calorimetry. *B.S. Clem*
POLY 336. Random copolymers of simple methacrylates synthesized by Cu(0)-mediated single-electron transfer living radical polymerization: Copolymerization kinetics and thermal properties. *J. Choe, W. Lee, K. Paeng, M. Kim*
POLY 337. "Greener" approach to the ring-opening polymerization of lactide. *N.U. Dharmaratne, T. Jouaneh, J.U. Pothupitiya, M.K. Kiesewetter*
POLY 338. Organocatalytic Ring opening polymerization of macrolactones and thionolactones. *U. Inush Kalana, P. Datta, R.S. Hewawasam, M.K. Kiesewetter*

POLY 339. Synthesis and characterization of novel anti-coagulants, sulfated poly- amido-saccharides (sulPAS). *M. Varghese, S.L. Chin, H. Caputo, M.W. Grinstaff*
POLY 340. High performance electron-transporting acceptor-acceptor conjugated polymers made via bimetallic Stille polymerization. *S. Aronow, N. Shevchenko, A. Dudnik*
POLY 341. Making completion of spherulitic growth within eight minutes for Bisphenol A polycarbonate by a double-layer film method. *M. Tang, X. Wang, Z. Wang*
POLY 342. Highly efficient strategies towards sustainable monomers and polymers derived from fatty acids via tetramethylguanidine promoted esterification. *J. Zhou, Z. Wang*
POLY 343. Initiation through alkylborane complexes for oxygen tolerant and ambient temperature RAFT. *O.R. Wilson, R.L. Timmins, A. Magenau*
POLY 344. Butadiene-ATRP with Ni, Pd and Pt complexes. *W. Bannerman, M. Johnson, V. Vasu, J. Kim, H. Yu, A.D. Asandei*
POLY 345. Synthesis and styrene copolymerization of novel trisubstituted ethylenes: 5. Oxy ring-substituted isopropyl 2-cyano-3-phenyl-2-propenoates. *W.S. Schjerve, K.M. Hussain, S. Ahmed, A. Baldi, N.M. Benton, A.L. Nilsen, T.J. Rager, J.N. Sanderson, D. Scott, J.G. Zapfen, O. Zavala, G.B. Kharas*
POLY 346. Synthesis and styrene copolymerization of novel trisubstituted ethylenes: 6. Halogen ring-substituted isopropyl 2-cyano-3-phenyl-2-propenoates. *S.M. Rocus, B.Y. Killam, T.S. Bullock II, J. Carmichael, S.J. Carvello, A.A. Dominguez, T. Faith, J. Garcia, A.D. Gould, E.E. Jacobs, K. Kochan, G.B. Kharas*
POLY 347. Benzodithiophene (BDT) based polymers for organic photovoltaics. *R. Gunawardhana, C. Bulumulla, M.C. Stefan*
POLY 348. Synthesizing amphiphilic cationic bottlebrush polymers for anti-marine fouling. *H. Senkum*
POLY 349. Polymerization of "controlled release" monomers containing a hydrolytically sensitive ester linkage via RAFT polymerization. *M.A. Al-Ali, S.L. Witcher, B.C. Benicewicz, A. Decho*
POLY 350. Enzymatic synthesis of stimuli-responsive microgels. *E. Gau, F. Flecken, A.N. Ksiazkiewicz, A. Pich*
POLY 351. Computational investigation of the effects of leaving groups and protecting groups on the kinetics of chain-growth polycondensation polymerization. *B.D. Etz, N. Losada, F. Prehn Jr., C.J. Reese, S.G. Boyes, S. Vyas*
POLY 352. Induction time and hydrogen bonding complexes of epoxide and oxetane monomers in photo-initiated cationic polymerization. *L. Kilgallon, S. Park, C.Y. Ryu*
POLY 353. The anionic polymerization of azetidine. *L. Reisman, E.A. Rowe, P. Ruper*
POLY 354. Bipyridine based donor-acceptor conjugated polymers for organic electronics. *P.L. Gamage, A.K. Fiedler, M.C. Stefan, M.C. Biewer*
POLY 355. Interaction of R₁-PEG-R₂/R₁-PEG-g-PAA co-hydrogel system with mucus. *Y. Sun, A.F. Perez, Y. Ba*
POLY 356. Hexaarylbiimidazole as efficient photoinhibitors of radical-mediated chain growth photopolymerizations. *H.L. Van der Laan, M. Cole, T.F. Scott*
POLY 357. Iron mediated butadiene-ATRP. *M. Johnson, W. Bannerman, V. Vasu, J. Kim, H. Yu, A.D. Asandei*
POLY 358. Environmentally benign vinyl ester resin (VER) and its fabrication for anti-flammable VER composites. *Y. Lee, N. Kim, P. Shah*
SECTION A
 Boston Convention & Exhibition Center
 Exhibit Hall B2/C
Ionic Liquids in Polymer Science & Engineering: From Molecular Design to Energy & Beyond
 T. E. Long, D. Mecerreyes, K. M. Miller, J. Yuan, *Organizers*
5:00 – 7:00
POLY 359. Enzymatic degradation by *Neurospora Crassa* of polysaccharides/protein based biocomposite regenerated from ionic liquids and various coagulation agents. *M. Zayas-Viera, D. Salas-de la Cruz*
POLY 360. Protein/polysaccharides biocomposite characterization via confocal microscopy. *D.E. Verrill, A. Morales, D. Salas-de la Cruz*
POLY 361. Synthesis and evaluation of cationic cellulose (IV): Effect of side chain length of cation on properties. *A. Hayashi, Y. Takeoka, M. Rikukawa, M. Fujita*
POLY 362. Synthesis and evaluation of cellulose/lignin hydrogels (IV): Effect of lignin on network structure. *C. Mitsui, Y. Takeoka, M. Rikukawa, M. Fujita*

POLY 363. Addition effects of cyclodextrin in ionic liquid electrolytes (VI): Analysis of lithium-ion transport property. *M. Suzuki, N. Kurahashi, Y. Takeoka, M. Rikukawa, M. Fujita*

POLY 364. Enumeration and literature analysis of n-alkyl imidazolium-based ionic liquids and monomers. *V.F. Scalfani, A. Al Alshaiikh, J.E. Bara*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Materials Genome Approach to Structure & Function

M. L. Klein, V. Percec, *Organizers*

5:00 – 7:00

POLY 365. Enhanced sampling of polymer solutions by molecular-dynamics simulation: implementation and use cases. *G. Fiorin*

POLY 366. Phase behavior of diblock copolymer free-standing films: Insights from simulations. *K. Hall*

POLY 367. Rapid discovery and development of designer RAFT polyelectrolytes. *J. Ting, H. Wu, A. Herzog-Arbeitman, J.D. Mitchell, O. Werba, S. Meng, A. Neitzel, A. Marciel, M.V. Tirrell*

POLY 368. Energy dissipation in polymers for ballistic applications from molecular simulations. *R. Remsing*

POLY 369. Glycoconjugates as cell membrane mimics and galectin functions. *Q. Xiao*

POLY 370. Insight into the structure and proton conductivity of Nafion® membranes using simulation and statistical approaches. *Y. Li*

POLY 371. Replacing sp^2 - sp^3 bonds with sp^2 - sp^2 bonds in self-assembling dendrons. *W. Shitao, N. Huang*

POLY 372. Elucidating the hierarchical basis for supramolecular orientational memory. *B.E. Partridge, D. Sahoo, M. Peterca, E. Aqad, M.R. Imam, M.L. Klein, V. Percec*

POLY 373. Investigating the effect of *ortho*-, *meta*-, and *para*-conformers on the structure of aromatic polyamides. *M. Young*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Polymer Chemistry for Functional Materials

A. Böker, G. N. Tew, F. Wiesbrock, *Organizers*

5:00 – 7:00

POLY 374. Synthesis of poly(dichlorophosphazene) by melt phase polymerization of P-trichloro-N-(dichlorophosphoryl) monophosphazene. *A.S. Elayan*

POLY 375. Spatiotemporal control of self-oscillating gel by uniformly aligned inorganic nano sheets. *Y. Kim, Y. Ishida, Y. Ebina, T. Sasaki, R. Yoshida, T. Aida*

POLY 376. Synthesis of supramolecular vinyl alcohol (VA) copolymers via ring-opening metathesis polymerization (ROMP) for biogenic amine delivery. *J. Deme, E. Kovács, G. Merza, G. Szolnoki, V. Kiss, G. Szarka, B. Iván, P. Huszty, J.A. Gladysz, R. Tuba*

POLY 377. Microgel matrix effect (MME): Influence of crosslinking on catalytic behavior. *B. Sharma, S. Striegler*

POLY 378. Supramolecular micelles based on multi-arm star-shaped phosphoester copolymers for controlled drug delivery. *L. Zhang, D. Shi, X. Li, M. Chen*

POLY 379. Functionalized polymeric nanoparticles for the treatment of MDR bacteria and biofilm infections. *A. Gupta, R.F. Landis, C. Li, M. Schnurr, Y. Lee, R. Das, M. Yazdani, Y. Liu, V.M. Rotello*

POLY 380. Tetraphenylmethane shape-persistent dendritic polymers as versatile multifunctional materials. *M. Torneiro, S. Campaña, D. González-Fernández, J. Urzúa, M. Roca, M. Lazzari, A. Rumbo*

POLY 381. Vapor phase organic chemistry to deposit conjugated polymer films on arbitrary substrates. *D. Bilger, N. Cheng, T.L. Andrew*

POLY 382. Improving performance of thin-film composite nanofiltration membranes by changing the properties of support membranes. *B. Liu, M. He*

POLY 383. Stimuli-responsive Pt(0)-containing metallo-supramolecular polymers. *L.M. Olacchia, E. Oveis, S. Schrett, L. Montero de Espinosa, C. Weder*

POLY 384. Synthesis of pseudo-dendrimer functional. *J. Romain*

POLY 385. Iterative synthesis of sequence-defined, multifunctional, biocompatible PEGs for biomedical applications. *R. Dong, R. Chen, A.G. Livingston*

POLY 386. Water soluble spiropyran polymers with tunable pKa and photo-isomerization rates. *M. Feeney, S.W. Thomas*

POLY 387. Strain-promoted cycloadditions for the synthesis and functionalization of polymers and nanocomposites. *V. Kardelis, D. Fang, K. Li, S.A. Mcnelles, C. Shamshoom, A. Adronov*

POLY 388. Synergetic catalysis using type-2 Cu-containing polymers for oxygen activation. *S. Thanneer, N. Milazzo, A. Lopes, Z. Wei, J. He*

POLY 389. One-component norrish type II initiation of CuAAC polymer networks under blue light. *B.P. Sutherland, A.U. Shete, C.J. Kloxin*

POLY 390. Polymer-functionalized carbon nanotubes as optical probes. *J. Budhathoki-Uprety, R. Langenbacher, P.V. Jena, D.A. Heller*

POLY 391. Organometallic approach to bioactive dendrimers and dendrimer-derived magnetoceramics. *C. Agatemor, N. Etkin, R. Bissessur, A.S. Abd-El-Aziz*

POLY 392. Stimuli-responsive dendronized polymeric hydrogels. *W. Li, J. Liu, X. Zhang, A. Zhang*

POLY 393. Synthesis of high molecular weight monodisperse pegylated dendrimeric structures. *P. Mesa Antunez, S. Alakurti, O. Andren, M. Malkoch*

POLY 394. Helix: Heterofunctional hyperbranched poly(amido amine) carboxylate. *T. Ingverud, M. Malkoch*

POLY 395. UCST star polypeptides: Synthesis and solution behavior. *Q. Zhou, A. Kumarimaduvu Palanisamy, S.A. Sukhishvili*

POLY 396. Stimuli-responsive supramolecular polymer adhesives exhibiting high toughness and stiffness. *D. Hohl, J. Sautaux, L. Montero de Espinosa, C. Weder*

POLY 397. Printing of microgel arrays for regulation of cell motility and adhesion. *A. Töpel, A. Sechi, A. Pich*

POLY 398. Nanostructured pH-responsive polyelectrolyte amphiphilic polymer conetworks. *B. Ivan, S. Pásztor, C. Fodor, M. Haraszti, G. Kali, Y. Thomann, R. Thomann, R. Mülhaupt*

POLY 399. BN aromatic ring strategy for tunable hydroxy content in polystyrene. *H.L. Van De Wouwe, R.S. Klausen*

POLY 400. Diffusion limited oxidation (DLO) in PCSA and PCSAA. *M.K. Kolel-Veetil, K.P. Fears*

POLY 401. Modular functionalization of polybutadiene with dynamic bonds for matrix free nanocomposites. *A. Tibbits, K. Park, J. Streit, L.F. Drummy, R.A. Vaia*

POLY 402. Radical-mediated thiol-ene emulsion polymerizations: formation of functional nanoparticles. *M.N. Arguén, D.A. Shipp*

POLY 403. Development of new high performance functional materials and macromolecular therapeutic platforms. *N. Park, J. Hedrick*

POLY 404. Effect of protein charge distribution on complex coacervation for the development of a polyionic coacervate tag. *R. Kapelner*

POLY 405. Tailorable grafting moieties for non-migratory internal plasticization of poly(vinyl chloride). *C. Higa, A. Tek, R. Wojtecki, R. Braslau*

POLY 406. Synthesis and characterization of PEDOT-polyaccharide films for urokinase recognition. *I.C. Calderon, R. So, E. Enriquez*

POLY 407. Shape-stable ultrasoft hydrogel microstructures. *S. Anders, O. Prucker, J. Ruehe*

POLY 408. Copper nanoparticles-contained hydrogel with self-healing and photothermal properties. *F. Tang, S. Chen, L. Li*

POLY 409. Polymeric materials having upper critical solution temperature characteristics as osmotic agents for forward osmosis process. *H. Kang, C. Ju*

POLY 410. Designing matrix effects in polyacrylate microgels. *M. Whaley, B. Sharma, S. Striegler*

POLY 411. Stereoselective photoredox ring-opening polymerization of O-carboxyanhydrides. *Y. Zhong, R. Tong*

POLY 412. Functional triptycene-based poly(ether ether ketone)s for porous and impact-protective materials. *Y. Wu*

POLY 413. Fluorescent labeling method reveals the functional mechanism of poly(acrylamide-co-acrylonitrile)s with upper critical solution temperatures. *S. Uchiyama, C. Otsuka, H. Tokuyama, A. Hayashi*

POLY 414. Self-Assembly of chiral helical nanostructures based on cholesterol-aided metallomacrocyclic. *L. Wang*

POLY 415. Ethanedithiol-functionalized polyisobutylene for biphasic extraction of transition metal catalysts. *I. Kulai, D. Chouikhi, D.E. Bergbreiter, M. Al-Hashimi, H.S. Bazzi*

POLY 416. Photoregulation of mechanochemical scission in polymers with a diarylethene-conjugated Diels-Alder adduct. *J. Kida, K. Imoto, D. Aoki, R. Goseki, M. Morimoto, H. Otsuka*

POLY 417. Thermally stable mechanochromic polymers having difluorenylsuccinonitrile. *H. Sakai, R. Goseki, D. Aoki, H. Otsuka*

POLY 418. Reducing volumetric shrinkage stress in composites via addition-fragmentation functionalized microparticles. *N.J. Bongiardina, N. Sowan, C. Wang, S. Mavila, J. Sinha, C. Bowman*

POLY 419. Insertion of methylene groups into PEG crosslinkers allows for control of hydrogel swelling and mechanical properties. *K. Cook, C. Grazon, A. Nazarian, E.K. Rodriguez, M.W. Grinstaff*

POLY 420. Investigation of crosslinking mechanism in ring-opening metathesis polymerization of functionalized dicyclopentadienes. *H. Liu, H. Wei, J.S. Moore*

POLY 421. Multifunctional hyperbranched polyglycerol as building blocks for the synthesis of cell-instructive hydrogels. *E.W. Fowler, X. Jia*

POLY 422. Flexible viologen- based porous coordination polymers showing fast- responsive photochromism and photomodulated fluorescence properties. *H. Zhang*

POLY 423. Biodegradable liquid crystalline polymeric nanoparticles for drug delivery. *D. Ndaya, R. Bosire, L. Gonzalez-Fajardo, A. Berings, X. Lu, R. Kasi*

POLY 424. Living additive manufacturing for complex gel formation via photo-controlled radical polymerization under ambient conditions. *J.R. Lamb, J.A. Johnson*

POLY 425. Synthesis and sub-10 nm supramolecular self-assembly of MJLCPs containing three-dimensional nanobuilding blocks. *X. Fan*

POLY 426. Stimuli-responsive solubility of poly(N-isopropylacrylamide) in nonpolar solvents. *Y. Fu, D. Bergbreiter, S. Madrahimov*

POLY 427. High-strength, stimuli-responsive polymer nanocomposites derived from soybean oil and cellulose nanocrystals. *M. Wu, Q. Peng, Z. Wang*

POLY 428. Thiazole coupled NDI-PDI based polymers as n-type semiconductors. *S. Attar, H.S. Bazzi, M. Al-Hashimi*

POLY 429. Maintenance-free polymer-based contact poly(2-oxazoline)-based biocides in polyolefin blends. *R. Hofmann, K.P. Luef, A. Kelly, F. Wiesbrock*

POLY 430. Poly(alkyl glycidate carbonate)s as degradable poly(alkyl acrylates) analogues. *A. Beharaj, I. Ekladios, M.W. Grinstaff*

POLY 431. Enhancing mechanical and thermal properties of 3D printed PLA by graphene reinforcement. *S. Rostom, B. Eduards, M.D. Dadmun*

POLY 432. Strategies for the assembly of sequence controlled polymers via thiol-click reactions. *B. Fairbanks, X. Han, H. Culver, S. Mavila, C. Bowman*

POLY 433. Dendrite-free lithium metal batteries based on single-ion polymers. *B. Kim, M. Park*

POLY 434. Hotter monomers with better adhesion: 7-Oxanorbornene and 7-oxanorbornadiene derivatives for improved frontal ring-opening metathesis polymerization. *L.A. Robertson, E. Goli, C. Lee, P.H. Geubelle, J. Moore*

POLY 435. Design and structural study of fluorinated 1,4-di(thiazolyl)benzenes as monomers for π -conjugated polymers with enhanced coplanarity. *M. Barot, I. Kulai, X. Ji, S. Dey, L. Fang, H.S. Bazzi, M. Al-Hashimi*

POLY 436. Rheological and diffusional characteristics of dimethylacrylamide-based hydrogel networks containing hollow silicone nanoparticles. *K.A. Stockmal, A.L. Fogel, S.E. Morgan*

POLY 437. Probing the hydrogen bond in photoresponsive supramolecular azobenzene-polymer films. *K. Herman, C. Mileham, J. Krüger, N. Bolle, D. McGee, H. Abourahma*

POLY 438. Synthesis, photophysics and fluorescence phosphate sensing by a poly(phenylene ethynylene)-type cationic conjugated polyelectrolyte. *P. Jagadesan, K.S. Schanze*

POLY 439. Polymer chromophore-catalyst assembly for the photocatalytic CO₂ reduction. *Y. Zhao, Y. Eom, K.S. Schanze*

POLY 440. Breathable fabrics with smart pores to mimic leaf stomata. *L. Lao, D. Shou, Y. Wu, J. Fan*

POLY 441. Dandelion-like near infrared light photoinitiators: From synthesis to enhanced photopolymerization. *X. Zou, Z. Li, R. Liu, X. Liu*

SECTION A

*Boston Convention & Exhibition Center
Exhibit Hall B2/C*

Polymers for Defense Applications

S. T. Iacono, R. H. Lambeth, J. A. Orlicki, J. H. Wynne, *Organizers*

5:00 – 7:00

POLY 442. 3D printing feedstocks from recycled materials. *N.E. Zander, M. Gillan*

POLY 443. Room temperature activation of self-decontaminating polyHIPE foams for force protection applications. *C.L. McGann, G.C. Daniels, S.L. Giles, R.B. Balow, J. Lundin, J.H. Wynne*

POLY 444. PolyHIPE composition modification: Towards a versatile chemical warfare agent absorbent. *A. Wright, S.J. Holder, M. Main, N.J. Cooper, B. Blight*

POLY 445. Characterization of fungal degradation mechanisms of organic coatings (polyurethane) using Fourier-transform infrared spectroscopy (FTIR). *R. Singh, H. Fauly, R. Bhargava, I. Ahmad*

POLY 446. Surface energy determinations in polymer systems by inverse gas chromatography. *W. Skinner, B. Borzych, E. Carbone, S.M. Manni*

POLY 447. Cold weather protection via silver nanowire and hydrogel modified textiles. *J.S. Lum, J. Orlando, E.E. Anderson, E. Hirst, P. D'Angelo*

POLY 448. Development of inherently omniphobic fibers and fabrics. *W. Zukas, N. Hoffman, Q. Truong*

POLY 449. Fuel transport properties of functionalized nanoclay/urethane composites. *J.M. Sloan, D.P. Flanagan, D.C. DeSchepper, H.O. Feuer*

POLY 450. Super repellent coatings for textiles for protection against aviation fuels. *M. Richards, M. Auerbach*

POLY 451. Self-assembling peptide nanofibers for rapid hemostasis. *C. Bitner, P.T. Hammond*

POLY 452. Novel synthesis of ternary MgTiSi alloys from asbestos-chrysotile. *F.F. Bruno, R. Nagarajan, A. Chiappa, N. Farhadi, D. Ziegler, M. Bernabei*

POLY 453. Tailoring acrylate-based metallo-supramolecular network morphologies with monomer feed ratio and excess metal-ligand complexes. *A.M. Savage*

POLY 454. Kinetic entrapment of poly(urethane-urea) hard domains via ultrahigh volume fraction aligned carbon nanotube arrays. *J. Gair, D.L. Lidston, R.H. Lambeth, D.P. Cole, A.J. Hsieh, H. Bruck, A.J. Hall, M.L. Bundy, B.L. Wardle*

POLY 455. The importance of polymer grafting strategy for the retention of DNase I polymer hybrid activity. *M. Kovaliov, S. Sloane, S. Averick, D. Konkolewicz*

POLY 456. Structure-property relationships through a novel FIB notch technique. *M.R. Roenbeck, E.J. Sandoz-Rosado, J. Cline, V. Wu, P. Moy, M. Afshari, D.L. Reichert, S. Lustig, K.E. Strawhecker*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

TOSOH Lectures

Interface of Polymer Science & Biology, Nanostructured Polymers & Nanocomposites

E. B. Berda, M. A. Daniele, J. Foster, *Organizers*

5:00 – 7:00

POLY 457. Novel cell detaching system by polymer that is responsive to fluorosolvent. *T. Nakanishi, T. Shimomasa, S. Oki, H. Eguchi*

POLY 458. New strategy for radical ring-opening polymerization of strainless macrocyclic monomers. *H. Huang, J. Niu*

POLY 459. Facial amphiphilic antimicrobial polymers using multicyclic bile acids. *M. Rahman, E. Luat, M. Jui, C. Tang*

POLY 460. Studying the effect of mechanical properties of lipid-wrapped nanoparticles on cell-nanoparticle interactions. *B. Eshaghi, B.M. Reinhard*

POLY 461. Comparing the dynamics of the *Neisseria meningitidis* and *Neisseria gonorrhoeae* type IV pilus filaments using all-atom molecular dynamics simulation. *R. Goncalves, J.L. Baker*

POLY 462. Novel organic-inorganic and robust aerogel based on polyhedral oligomeric silsesquioxane (POSS). *L. Wang, Q. Li*

POLY 463. Single-chain nanoparticles via intra-chain atom transfer radical coupling. *E.R. Bright, C. Willis, C. Leo, N. Shipley, E.B. Berda*

POLY 464. Effect of pendant groups on fabrication of poly(norbornene imide) single-chain nanoparticles. *R. Chen, S. Benware, J. Cole, J.J. Lessard, E.B. Berda*

POLY 465. Polylactide nanocomposites: The influence of the interactions on the light and gas barrier properties. *A. Sangroniz, E. Lizundia, J. Vilas, M. Iriarte, A. Etxeberria*

POLY 466. Effect of crystal orientation of cellulose nanocrystal (CNC) on properties of polyvinyl alcohol nanocomposite fibers. *S. Shrestha, G. Schueneman, J. Snyder, J.P. Youngblood*

POLY 467. SI-RAFT polymerization of dimethyl butadiene on silica nanoparticles for matrix-free "methyl rubber" nanocomposites. *Z.M. Abbas, M.M. Mohammadkhani, B.C. Benicewicz*

POLY 468. Nanoscale structure-property relationships of polyacrylonitrile/CNT composites as a function of polymer crystallinity and CNT diameter. *J. Gissinger, C. Pramanik, B. Newcomb, S. Kumar, H. Heinz*

POLY 469. All inorganic perovskite nanocrystals with precisely controlled optical properties and enhanced stability via non-linear amphiphilic block copolymers. *Y. Yoon, Y. Chen, J. Jung, Y. Chang, C. Lin, S. Yu, S. Zhang, C. Lu, S. Pan, Z. Wang, Z. Kang, V.V. Tsukruk, Z. Lin*

POLY 470. Interfacial transport in nanocellulose-based nanocomposite membranes for improved reverse osmosis performance. *S.M. Martin, E. Smith, J. Foster*

POLY 471. Effect of isopropyl phosphate incorporation on the morphology and transport properties of sulfonated poly(styrene-isobutylene-styrene) membranes. *E. Ruiz-Colon, M. Perez Perez, D. Suleiman*

POLY 472. High fidelity supramolecular copolymers as tunable pH-responsive siRNA-carrier materials. *P. Ahlers, P. Besenius*

POLY 473. Kinetic-control on tunable nanomaterials. *A. Sarkar, M. Stefik*

POLY 474. Interfacial and rapid addition polyaniline nanofiber synthetic methods: A comparative study. *H. Moustakas, J.J. Belbruno*

POLY 475. Porous thin films with hierarchical structures formed by self-assembly of zwitterionic comb copolymers. *P. Kaner, I. Sadeghi, A. Asatekin*

POLY 476. Facile fabrication of functional hydrogel from enzymatically synthesized polymeric DNAs. *L. Tian*

POLY 477. Theoretical anatomy of the Nuclear Pore Complex. *K. Huang, I. Szleifer*

POLY 478. Backbone-degradable brush polymers: Synthesis and biological applications. *P. Shieh, J.A. Johnson*

POLY 479. Highly efficient single-chain organic nanoparticle catalyst for click chemistry. *J. Chen, S.C. Zimmerman*

POLY 480. Cyclopropenium polymers: A platform for nonviral gene delivery materials. *R. Starr, L.M. Campos*

POLY 481. Assembly and differentiation of salivary stem/progenitor cells in bioactive synthetic matrices. *E.W. Fowler, A. Ravikrishnan, S. Pradhan-Bhatt, X. Jia*

POLY 482. Tuning matrix properties to regulate the phenotype and functions of epithelial cells. *A. Ravikrishnan, E.W. Fowler, X. Jia*

POLY 483. Interactions between biosystems and 3D-microstructured surfaces. *S. Anders, N. Tusamda Wakhloo, O. Prucker, K. Anselme, J. Ruehe*

POLY 484. Polyproline as a minimal mimic of antifreeze glycoproteins and its use in cellular cryopreservation. *B. Graham, T.L. Bailey, M.I. Gibson*

POLY 485. Guanidium-based cell penetrating polymers as delivery agents trigger apoptosis in HepG2 cells but can be alleviated by conjugating to hydrophilic block. *Z. Tan, Y.K. Dhande, T.M. Reineke*

POLY 486. The encapsulation of conjugated polymers for use as biological imaging agents. *S. Bourke, F. Dona, M. Panamarova, Y. Teijeiro Gonzalez, U.S. Eggert, K. Suhling, P. Zammitt, L. Dailey, M. Green*

POLY 487. Role of transporter-cargo binding in polymer-mediated intracellular protein delivery. *N.D. Posey, C.R. Hango, L.M. Minter, G.N. Tew*

POLY 488. Multistate characterization of interactions of isoamphiphilic oligomers with bacterial mimetic membranes. *J.S. Brown, Z. Mohamed, C. Artim, S. Daniel, C.A. Alabi*

POLY 489. Copolymer-stabilized coacervate microdroplets as multicompartimentalized artificial cells. *A.F. Mason, L. Abdelmohsen, N. Yewdall, B. Buddingh, D.S. Williams, J. Van Hest*

POLY 490. Drug-loaded (copolymeric) nanovectors via direct hydration as a new nanomedical platform for leukemia therapy. *D.S. Williams, R. Ridolfo, B. Ede, P. Diamanti, P. White, A. Perriman, J. Van Hest, A. Blair*

POLY 491. Targeted delivery of tumor-responsive polymer anticancer prodrugs. *D. Hu, H. Hu, J. Tang, Y. Shen*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Vitrimers & Other Covalent Adaptable Networks

C. Bowman, F. E. Du Prez, *Organizers*

5:00 – 7:00

POLY 492. Programmable liquid crystalline elastomers using light activated covalent adaptable networks.

A. Martinez, M. McBride, C. Bowman

POLY 493. Tuning dynamic liquid crystal networks via mesogen copolymerization. *A. Metlay, D.K. Schneiderman, F.S. Etheridge, S.J. Rowan*

POLY 494. Intrinsically-healable, self-reporting thermosets by activation of latent, long-lived reactive species. *A. Bingham*

Joint PMSE-POLY Poster Session

Designing Polymers for Function in Electrochemical Energy Storage Devices

Sponsored by PMSE, Cosponsored by POLY

Joint PMSE-POLY Poster Session

General Posters-New Concepts in Polymeric Materials

Sponsored by PMSE, Cosponsored by POLY

Joint PMSE-POLY Poster Session

Porous Polymers

Sponsored by PMSE, Cosponsored by POLY

Joint PMSE-POLY Poster Session

Probing Structure & Morphology of Polymers & Polymer Composites in Real & Reciprocal Space

Sponsored by PMSE, Cosponsored by POLY

Joint PMSE-POLY Poster Session

Surface, Interface & Coating Materials

Sponsored by PMSE, Cosponsored by POLY

Joint PMSE-POLY Poster Session

Synthesis, Processing & Device Engineering

Sponsored by PMSE, Cosponsored by POLY

WEDNESDAY MORNING

SECTION A

Westin Boston Waterfront
Carlton

Materials Genome Approach to Structure & Function

Synthetic Biology

M. L. Klein, V. Percec, *Organizers*

P. H. Seeberger, D. A. Wilson, *Presiding*

8:00 POLY 495. Glycopolymers for immune modulation in the tumor microenvironment. *C.R. Bertozzi*

8:35 POLY 496. Multivalent displays for cancer immunotherapy. *L.L. Kiessling*

9:10 POLY 497. Design principles for a hybrid polymeric materials system capable of photothermally-triggered actuation and its application as a new platform for in vitro cell manipulation. *A. Sutton, T. Shirman, J. Aizenberg*

9:45 Intermission.

10:05 POLY 498. Novel materials created from synthetic polysaccharides: Synthesis, structure and function. *P.H. Seeberger*

10:40 POLY 499. Complex supramolecular systems and functions from programmed sequence-defined primary structures. *V. Percec*

11:15 POLY 500. Star-shaped glycopolymers with ability to manipulate cytokine secretion in human dendritic cells. *D.M. Haddleton*

SECTION B

Westin Boston Waterfront
Griffin

Polymers for Defense Applications

S. T. Iacono, R. H. Lambeth, J. A. Orlicki, J. H. Wynne, *Organizers*

J. S. Lum, J. Lum, *Presiding*

8:00 POLY 501. Synthesis of energetic propellant and explosive ingredients for potential polymer applications. *J. Sabatini*

8:25 POLY 502. Encapsulation of phase change materials within emulsion-templated polymer monoliths for thermal energy storage/release applications. *M.S. Silverstein, R. Sanguramath, I. Berzovska, N. Rosen, K. Kapilov-Buchman, E. Ovadia, R. Mor Yosef, E. Tuval, I. Moshé, A. Miller, A. Picciotto*

8:50 POLY 503. Strategies to improve binder performance for energetic materials. *J.A. Orlicki, M.H. Baranowski*

9:15 POLY 504. Inert binder effects on interface and reaction kinetics of 3D printed reactive composites. *J.M. McCollum, S.T. Iacono, J. Bencomo*

POLY

9:40 POLY 505. High performance polymers for additive manufacturing: 3D Printing of Kapton®. *J. Herzberger, V. Meenakshisundaram, C.B. Williams, T.E. Long*

10:00 Intermission.

10:30 POLY 506. Old thermoset chemistries for a new process. High temperature thermosetting resins for additive manufacturing. *H. Koerner*

10:55 POLY 507. Towards additive manufacture of high performance thermoset polymeric composites. *J.P. Lewicki*

11:20 POLY 508. Phototriggerable transient devices based on polyaldehydes. *P. Kohl, O. Phillips, J. Jiang, A. Engler*

11:40 POLY 509. Using polymers to affect the behavior of liquid crystals. *M. McConney, T.J. White, T. Bunning*

SECTION C

Westin Boston Waterfront
Commonwealth Ballroom C

DSM Science & Technology Award

L. Pitet, Organizer, Presiding

8:00 Introductory Remarks.

8:15 POLY 510. Stretchable electronic and photonic nanocomposites from self-organized nanoparticles. *Y. Kim, N. Kotov*

8:45 POLY 511. Sequential annealing of block copolymers for Moiré superstructures. *C. Jin, B.C. Olsen, E.J. Lubert, J.M. Buriak*

9:15 POLY 512. Applications of colloidal core-shell nanoparticles as precursors to porous thin film coatings in photovoltaic applications. *D. Reardon*

9:45 Intermission.

10:15 POLY 513. Design of polymeric microstructures showing active, dynamic and hierarchical deformations. *Y. Yao, J. Cui, X. Wang, A.V. Shneidman, N.K. Mandsberg, J. Aizenberg*

10:45 POLY 514. High performance roll-to-roll printed PTB7-Th/PC71BM organic solar cells. *K. Gu, X. Gu, Y. Zhou, H. Yan, Z. Bao*

11:15 POLY 515. Investigating new sources for and applications of cellulose nanocrystals. *S.J. Rowan*

SECTION D

Westin Boston Waterfront
Marina Ballroom III

General Topics: New Synthesis & Characterization of Polymers

D. Garcia, Organizer

Y. He, J. T. Trotta, Presiding

8:00 POLY 516. PolyMOC gels formed from M_6L_{12} coordination cubes. *J. Zhao, J.A. Johnson*

8:20 POLY 517. AFM peakforce QNM mode for measurement of nanosurface mechanical properties of Pt-cured silicones: Evidence for a double network. *K.J. Wynne, S. Nair, C. Wang*

8:40 POLY 518. Studies into the preparation of *Adenopus breviflorus* benth oil cast resin via catalyst and solvent free thermal click chemistry. *C.O. Akintayo, E.T. Akintayo, O. Iyiola*

9:00 POLY 519. NIR-sensitized photoinduced ATRP with ppm of Cu catalyst. *C. Kütahya, C. Schmitz, V. Strehmel, Y. Yagci, B. Strehmel*

9:20 POLY 520. Renewable thermosets and thermoplastics from itaconic acid. *J.T. Trotta, B.P. Fors*

9:40 POLY 521. Synthesis of poly(vinyl phosphonic acid)-based polymers and their potential applications. *S.L. Lilholt, I. Alshehri, K. Tillman, D.A. Shipp*

10:00 POLY 522. Synthesis and characterization of nanoZIF-8 loaded polystyrene composite particles. *S. Thaiboonrod, W. Sajomsang, C. Ratanatawanate, P. Gonil*

10:20 POLY 523. Green synthesis of functional fluoropolymers. *J. Jaye*

10:40 POLY 524. Lewis acids as highly active silanol condensation polymerization catalysts. *M. Belowich, E. Auyeung, J. Roberts, T. Peterson, S. Han, V. Pushkarev, W. Lee*

11:00 POLY 525. Anionic polymerization of nitrophenylsulfonyl-activated aziridines. *P. Mbarushimana*

11:20 POLY 526. Transition metal mediated ATRP of butadiene. *A.D. Asandei*

11:40 POLY 527. Thermodynamic investigation of hyaluronic acid-chitosan coacervates. *F. Akcay Ogur, F.A. Akin, A.B. Kayitmazer*

SECTION E

Westin Boston Waterfront
Grand Ballroom C

Block Polymer Synthesis & Nanoscale Self-Assembly

Cosponsored by PMSE[†]

N. Balsara, N. A. Lynd, G. Stein, C. G. Willson, Organizers
R. Ferrier, Presiding

8:00 POLY 528. Electrochemically controlled cationic polymerizations. *B.P. Fors*

8:30 POLY 529. Bimetallic chromium catalysts with chain transfer agents: A new route to isotactic poly(propylene oxide)s with narrow dispersities. *L.S. Morris, I. Childers, G.W. Coates*

8:50 POLY 530. *S. oneidensis* as a living electrode for controlled radical polymerization. *G. Fan, C. Dundas, A. Graham, N.A. Lynd, B. Keitz*

9:10 POLY 531. Convenient synthesis of redox responsive block polymers. *D.K. Schneiderman, T. Ruiz Velasco, R. Miranda, S.J. Rowan*

9:30 POLY 532. Synthesis and self-assembly of polyether-containing block polymers. *N.A. Lynd*

10:00 Intermission.

10:30 POLY 533. Reversible-addition fragmentation chain transfer (RAFT) mediated depolymerization of brush polymers. *M.J. Flanders, W. Gramlich*

10:55 POLY 534. Organic ring-opening polymerization catalysts: A facile approach to homopolymers and block copolymers. *B. Lin, N. Park, J. Hedrick, R.M. Waymouth*

11:10 POLY 535. Post-polymerization synthesis of block copolymers via reactions in the semicrystalline gel-state. *R.B. Moore, L. Anderson, K. Felice, S. Talley*

11:30 POLY 536. Synthesis, materials science, and applications of olefin block copolymers prepared by chain shuttling catalysis. *P.D. Hustad, E.M. Carnahan, J. Weinhold, C. Li Pi Shan*

SECTION F

Westin Boston Waterfront
Otis

Ionic Liquids in Polymer Science & Engineering: From Molecular Design to Energy & Beyond

T. E. Long, D. Macerreyes, Organizers

K. M. Miller, J. Yuan, Organizers, Presiding

8:00 POLY 537. Interactions, organization, and functional properties of star poly(ionic liquid) assemblies. *A.J. Erwin, H. He, K. Matyjaszewski, A.P. Sokolov, V.V. Tsukruk*

8:25 POLY 538. Highly crosslinked PILs as sorbent and catalyst in deep desulfurization of fuel oil. *C. Li, H. Song*

8:50 POLY 539. Mesoporous poly(ionic liquid)s catalyze the conversion of CO₂ into high-value chemicals. *Y. Zhou, Z. guo, J. Wang*

9:15 POLY 540. Design of ion-conductive core-shell nanoparticles via site-selective quaternization of triazole-triazolium salt block copolymers. *C. Lo, K. Nakabayashi, H. Mori*

9:40 Intermission.

10:10 POLY 541. Polyester synthesis via enzymatic ring-opening polymerization (ROP) in ionic liquids. *H. Zhao, L. Afriyie*

10:30 POLY 542. Stretchable single-ion conducting block copolymer membranes. *P. Cao, B. Li, G. Yang, J. Nanda, A.P. Sokolov, T. Saito*

10:50 POLY 543. Ion specific odd-even effects glass transitions in polymerized ionic liquid networks. *C. Shen, Q. Zhao, C. Evans*

11:10 POLY 544. Multifunctional mesoporous poly(ionic liquid)s for the transformation of biomass platform compound 5-hydroxymethylfurfural. *Q. Wang, Y. Zhou, J. Wang*

11:30 POLY 545. Protic ionic liquids composite membranes with selective gas transport nanochannels: Applications in olefin-paraffin separation. *X. Tantai, L. Zhang*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Porous Polymers

Applications

Sponsored by PMSE, Cosponsored by POLY

Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in honor of Aleksandr V. Zhukhovitskiy

Sponsored by PMSE, Cosponsored by CHED[†], POLY[†] and PROF

Value-Added Derivatives from Agro-Based Raw Materials

Polysaccharide-Related Materials

Sponsored by AGFD, Cosponsored by POLY

Surface, Interface & Coating Materials

Functional Surface & Coatings

Sponsored by PMSE, Cosponsored by COLL and POLY

WEDNESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Carlton

Materials Genome Approach to Structure & Function

Life-Inspired Systems & Molecular Machines

M. L. Klein, V. Percec, Organizers

P. T. Hammond, E. Yashima, Presiding

1:00 POLY 546. Combinatorial nanoscience: Expanding the materials genome. *C.A. Mirkin*

1:35 POLY 547. Machine learning for colloidal crystal structure and property discovery & inverse design. *S.C. Glotzer*

2:10 POLY 548. Mechanically robust but healable polymer materials. *T. Aida*

2:45 Intermission.

3:05 POLY 549. Active, autonomous and complex life-like molecular systems with adaptive behaviour. *D.A. Wilson*

3:40 POLY 550. Dynamic self-assembly for life-inspired systems. *M. Lee*

4:15 POLY 551. Harnessing artificial molecular machines in slide-ring polymer synthesis. *C. Pezzato, Y. Feng, Y. Qiu, I. Roy, J.F. Stoddart*

SECTION B

Westin Boston Waterfront
Griffin

Polymers for Defense Applications

S. T. Iacono, R. H. Lambeth, J. A. Orlicki, Organizers

J. H. Wynne, Organizer, Presiding

N. E. Zander, Presiding

1:00 POLY 552. Unexpected synergy in engineered metal-organic frameworks and polymer membranes for military protection applications. *J.B. DeCoste, M.S. Denny, T. Tovar, I. Iordanov, G. Peterson, S. Cohen*

1:25 POLY 553. Improved sequestration and decomposition of chemical warfare agents via low-temperature thermal treatment of porous poly(dicyclopentadiene) foams. *R. Balow, S.L. Giles, C. McGann, G.C. Daniels, J. Lundin, P.E. Pehrsson, J.H. Wynne*

1:50 POLY 554. N-Substituted polyurea-silane polymers for coatings with enhanced CWA resistance. *E.M. Durke, E. Iezzi*

2:15 POLY 555. Detection of threats and sensors via electrochemically molecularly imprinted polymers (E-MIPs). *R.C. Advincula*

2:40 POLY 556. MOFwrich: Sandwiched metal-organic framework-containing mixed matrix composite polymers for chemical warfare agent removal. *G.W. Peterson, A. Lu, M.G. Hall, M.A. Browe, T. Tovar, T.H. Epps*

3:00 Intermission.

3:30 POLY 557. Sensing chemical warfare agent simulants via natural and synthetic photonic crystals. *B. Fisher, A. Abel, J. Kittle*

3:55 POLY 558. Poly high internal phase emulsions for the absorption and immobilization of chemical warfare agents. *S.J. Holder, A.J. Wright, B. Blight, M. Main, N.J. Cooper*

4:20 POLY 559. Detection of organophosphates using a new generation of polymer-incorporated fluorescent sensors. *E. Lloyd, K.A. Van Houten*

4:40 POLY 560. Enzymatic synthesis of fluorescent conjugated polymers and their application in sensing. *W. Kiratitanavit, F.F. Bruno, J. Kumar, R. Nagarajan*

SECTION C

Westin Boston Waterfront
Commonwealth Ballroom C

Biomacromolecules/Macromolecules Young Investigator Award

P. Majumder, Organizer

A. Albertsson, M. A. Hillmyer, S. J. Rowan, Presiding

1:00 Introductory Remarks.

1:05 POLY 561. Bioactive nano- and microstructures from self-assembling amphiphilic glycopolymers. *N.R. Cameron*

1:30 POLY 562. Advances in PISA. *R.K. O'Reilly*

1:55 POLY 563. Polymers at Interfaces. *H.A. Klok*

2:20 POLY 564. New materials inspired by antifreeze proteins to enable cell and biologic storage. *M.I. Gibson*

2:45 Intermission.

3:00 POLY 565. Complex, amphiphilic hyperbranched fluoropolymer poly(ethylene glycol) crosslinked networks: Unique characteristics for broad applications from anti-biofouling coats, to hosts for promoted guest release, to anti-curing materials. *K.L. Wooley*

3:25 POLY 566. Why polymer electrolytes less conductive than liquids and inorganic solid electrolytes? *Y. Shao-Horn*

3:50 POLY 567. Engineered living materials. *H. Liu, S. Sim, Y. Hui, D.A. Tirrell*

4:15 POLY 568. Toward increased precision and efficiency in macromolecular synthesis: New strategies and enabling functions. *J.A. Johnson*

4:40 Concluding Remarks.

SECTION D

Westin Boston Waterfront
Marina Ballroom III

General Topics: New Synthesis & Characterization of Polymers

D. Garcia, *Organizer*

Z. Li, Q. Michaudel, *Presiding*

1:00 POLY 569. β -selective cyclopolymerization using Ru-dithiolate olefin metathesis catalysts by controlled manner. *K. Jung, T. Choi*

1:20 POLY 570. Porous polyimide network as a new photoactive organocatalyst for PET-RAFT polymerization with oxygen tolerance. *L. Zhang, G. Ye, S. Xu*

1:40 POLY 571. Solid state photoelimination polymerization: Structure change with guest species in urea inclusion. *M. Moskowitz, B. Wang, S. Dinca, M. Hollingsworth, M.B. Sponsler, B.S. Hudson*

2:00 POLY 572. Towards exceptionally stable imidazolium cations for anion-exchange membrane applications. *J. Shih, V.N. Nziro, V. Bryantsev, J. Melchior, R. Custelcean, S. Jansone-Popova*

2:20 POLY 573. Investigation of a dual-role, two-color photosensitive molecule for oxygen removal and radical generation. *K. Childress, K. Kim, D. Glugla, M. Alim, J.W. Stansbury*

2:40 POLY 574. Accessing various polymer architectures with the simple flip of a switch. *Q. Michaudel, B.P. Fors*

3:00 POLY 575. Development of a chain-shuttling ring-opening polymerization. *M. Chiu*

3:20 POLY 576. Organocatalyzed ring-opening atom transfer radical polymerization of vinylcyclopropanes driven by visible light. *D. Chen, G. Miyake*

3:40 POLY 577. Catalytic synthesis and post-polymerization modification of cyclic polyalkynes. *Z. Miao, T. Kubo, B.S. Sumerlin, A.S. Veige*

4:00 POLY 578. Synthesis of sustainable poly(γ -butylactone) and copolymers by cyclic trimeric phosphazene base catalyzed ROP. *Z. Li*

4:20 POLY 579. Effects of two different α -olefins and the composition ratio of their combination on maleic anhydride and α -olefins terpolymerization. *H. Kim, J. Nath, N.S. Khellallah*

4:40 POLY 580. Six- and seven-membered ring-forming cyclopolymerization of various diene derivatives using Grubbs catalysts: Rational design of monomers and direct observation of propagating carbene. *J. Song, T. Choi*

SECTION E

Westin Boston Waterfront
Grand Ballroom C

Block Polymer Synthesis & Nanoscale Self-Assembly

N. Balsara, G. Stein, C. G. Willson, *Organizers*

N. A. Lynd, *Organizer, Presiding*

1:00 POLY 581. Precision nanomaterials from kinetic-controlled block copolymers. *M. Stefk*

1:30 POLY 582. Nanostructural transitions driven via in situ polymer grafting in diblock copolymer/monomer blends. *R. Hickey, E. Zofchak, W. Mei, J. LaNasa*

1:50 POLY 583. Facile synthesis of fluorine-substituted polylactides and self-assembly of their amphiphilic block copolymers in solution. *C. Lee, R. Khalifehzadeh, B.D. Ratner, A. Boydston*

2:10 POLY 584. Pd-catalyzed post-polymerization modification of block copolymers for nanoparticle synthesis. *D.H. Howe, A.N. Le, R.M. McDaniel, A.J. Magenau*

2:30 POLY 585. Progress in fully fluctuating field theoretic simulations of polymers. *K.T. Delaney, G.H. Fredrickson*

3:00 Intermission.

3:30 POLY 586. Re-ordering of disordered structure of an amorphous - *b* - main-chain liquid crystal - *b* - amorphous copolymer into ordered lamellar structure by adding homo liquid crystalline chains. *M. Hayashi, J. Kuribayashi, M. Tokita*

3:50 POLY 587. Research on controlled self-assembly of controlled fluorescent block copolymers driven by π - π interactions. *F. He*

4:10 POLY 588. Synthesis, characterization and biostability of poly(ethylene-co-butylene) polyurethanes. *R. Cui, R. Tota, R. Faust*

4:30 POLY 589. Kraton Polymers, 50 years of experience with styrenic block copolymers. *M. Stol*

SECTION F

Westin Boston Waterfront
Otis

Polymer History

Cosponsored by HIST, PMSE and SCC[†]

R. S. Moore, *Organizer*

W. T. Ford, *Organizer, Presiding*

1:00 POLY 590. Development of polymer science in academia. *W.J. MacKnight, E.B. Coughlin*

1:30 POLY 591. Paul Flory's legacy in polymer science. *D.Y. Yoon*

2:00 POLY 592. Polyesters from discovery to indispensable modern materials. *S.R. Turner*

2:30 POLY 593. Developments in living polymerization. *R.H. Grubbs*

3:00 Intermission.

3:30 POLY 594. Polymer chemistry history: The development of modern photoresists. *R.D. Allen*

4:00 POLY 595. Pressure sensitive adhesives and tapes: From intuition to science. *D. Yarusso*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Porous Polymers

Macroporosity

Sponsored by PMSE, Cosponsored by POLY

Value-Added Derivatives from Agro-Based Raw Materials

Triglycerides & Lignin

Sponsored by AGFD, Cosponsored by POLY

Surface, Interface & Coating Materials

Applied Surface & Coating Research

Sponsored by PMSE, Cosponsored by COLL and POLY

WEDNESDAY EVENING

SECTION A

Westin Boston Waterfront
Grand Ballroom A

POLY/PMSE Plenary & Awards Event

Cosponsored by PMSE[†] and PROF

E. Harth, C. Lipscomb, *Organizers*

D. J. Gerbi, M. Grunlan, *Presiding*

5:30 Welcome Reception.

6:00 POLY 596. Translating polymer science and engineering into practice: Air Force Materials Science and Technology. *T. Bunning*

6:45 Award Presentation and Reception.

THURSDAY MORNING

SECTION A

Westin Boston Waterfront
Carlton

Materials Genome Approach to Structure & Function

Cancer Therapeutics & Biomaterials

M. L. Klein, V. Percec, *Organizers*

R. Grubbs, J. G. Rudick, *Presiding*

8:00 POLY 597. Designer polypeptides for cancer therapeutics and controlled mRNA delivery. *P.T. Hammond*

8:35 POLY 598. Biomimetic helical foldamers and polymers: Synthesis, structures and functions. *E. Yashima*

9:10 POLY 599. Multifunctional and stimuli responsive polypeptides. *T.J. Deming*

9:45 POLY 600. Dendrimer peptidomimics and polymers for drug and vaccine delivery. *M. Monteiro*

10:20 POLY 601. Marshalling methods to make soft materials: Design and synthesis of polymer-based materials. *R.B. Grubbs*

10:55 POLY 602. A combinatorial library approach to biomaterials. *R. Langer*

SECTION B

Westin Boston Waterfront
Griffin

Polymers for Defense Applications

S. T. Iacono, J. A. Orlicki, J. H. Wynne, *Organizers*

R. H. Lambeth, *Organizer, Presiding*

A. M. Savage, *Presiding*

8:00 POLY 603. Regioselective C-H xanthylation as a platform for polyolefin functionalization. *J. Williamson, W. Czaplinski, E.J. Alexanian, F.A. Leibfarth*

8:20 POLY 604. Polyarylene synthesis, characterization, and optimization for high performance applications. *S.M. Budy, D.Y. Son*

8:40 POLY 605. Synthesis and evaluations of substituted polyaniline with high conjugation and conductivity. *F.F. Bruno, R. Nagarajan, W. Kiratitanavit, N. Farhadi, B. Yoon, S. Fossey, M. Bernabei*

9:00 POLY 606. Development of high temperature inorganic-organic polymers and hybrids. *T. Prunyn, J. Heckler*

9:20 POLY 607. Fast neutron irradiation of polymeric materials. *C.W. Littlefield, B. Jeffries, C. Algieri, J. So, J. Gallagher, J.D. Robertson, Q. Michael, J.D. Brockman*

9:40 POLY 608. Preparation and properties of highly thermostable polyisocyanurate foams modified with epoxy resin. *K. Chen, C. Tian*

10:00 Intermission.

10:30 POLY 609. Adhesive and mechanical properties of hybrid polyhydroxyurethane-epoxy network polymers. *R.H. Lambeth*

10:50 POLY 610. Hygroscopic, thermal, and radiation stability of high precision replicated epoxy composite mirrors. *H. Kim, G. Ferrelli, R. Zaldivar*

11:10 POLY 611. Underlying causes of quality and dimensional stability in high-precision replicated composite optics. *G. Ferrelli, H. Kim, R. Zaldivar*

11:30 POLY 612. PEEK-graphene nanocomposites: Experimental properties and atomistic modeling. *J.A. Maurer, T. Safack, A.G. Littlefield, S.F. Bartolucci*

SECTION D

Westin Boston Waterfront
Otis

General Topics: New Synthesis & Characterization of Polymers

D. Garcia, *Organizer*

Q. R. Chu, *Presiding*

8:00 POLY 613. Polymerization via Pd/norbornene cooperative catalysis. *K. Yoon*

8:20 POLY 614. Construction of cyclobutane-containing polymer (CBP) by using [2+2] photocycloaddition. *Q. Chu*

8:40 POLY 615. Cyclopolymerization of *N*-aryl substituted diallylamines. *Y. Aoyama*

9:00 POLY 616. Borane chemistry in polymer synthesis. *X. Pan*

SECTION E

Westin Boston Waterfront
Grand Ballroom C

Block Polymer Synthesis & Nanoscale Self-Assembly

N. Balsara, N. A. Lynd, G. Stein, C. G. Willson, *Organizers*

C. Bates, *Presiding*

8:00 POLY 617. Telechelic polyetherimides and their block copolymers. *G. Liu, K. Cao, D. Guo*

8:30 POLY 618. Nanoscale self-assembly materials of amphiphilic random and block copolymers. *T. Terashima*

8:50 POLY 619. Synthesis of DNA triblock copolymer using a combination of restriction and ligation enzymes. *S. Li, J. Shin*

9:10 POLY 620. Bioinspired design of nanostructured elastomers to mimic mechanical properties of human skin. *Z. Wang, Z. Wang, Z. Guan*

9:30 POLY 621. Nanostructure control of biomimetic materials. *A. Rosales*

10:00 Intermission.

10:30 POLY 622. Self-assembly of peptide-polymer amphiphiles directed by metal ion coordination. *A. Knight, C.J. Hawker*

10:50 POLY 623. Secondary structure controlled self-assembly of di- and triblock copolypeptide(s)ides: From solution to template assisted self-assembly. *M. Barz*

POLY/PMSE

11:10 POLY 624. Block copolymer self-assembly in microfluidically produced double emulsion droplets. *J. Werner, U.B. Wiesner, D.A. Weitz*

11:30 POLY 625. Block copolymer derived nanostructured surfaces: Templating confined surface reactions. *K. Barteau, K. Oleske, L.A. Estroff, U.B. Wiesner*

Functional Materials from Biopolymer Self-Assembly & Self-Organization

Sponsored by CELL, Cosponsored by CARB, COLL, ENVR and POLY

Value-Added Derivatives from Agro-Based Raw Materials

New or Improved Biobased Materials or Bioprocesses

Sponsored by AGFD, Cosponsored by POLY

Surface, Interface & Coating Materials

New Developments in Coating Industry

Sponsored by PMSE, Cosponsored by COLL and POLY

PMSE

Division of Polymeric Materials Science and Engineering

E. Harth, B. Olsen, C. Snyder, X. Jia and A. Norman, *Program Chairs*

OTHER SYMPOSIA OF INTEREST:

Block Polymer Synthesis & Nanoscale Self-Assembly (see *POLY, Mon, Tue, Wed, Thu*)
Vitrimers & Other Covalent Adaptable Networks (see *POLY, Sun, Mon, Tue*)

SOCIAL EVENTS:

Social Hour, 6:00 PM: Tue
Reception, 5:30 PM: Wed

BUSINESS MEETINGS:

Executive Committee Meeting, 4:30 PM: Sun
Business Meeting, 5:00 PM: Mon

SUNDAY MORNING

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Microporosity

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)

N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, *Organizers*

R. Guo, N. B. McKeown, *Presiding*

8:20 Introductory Remarks.

8:30 PMSE 1. Rapid removal of organic micropollutants using porous cyclodextrin polymers. *W.R. Dichtel, M. Klemes, L. Xiao, D.M. Alzate-Sanchez, Y. Ling, D.E. Helbling*

9:00 PMSE 2. Ultraporous polymers of intrinsic microporosity (PIMs) for gas separation membranes. *N.B. McKeown*

9:30 PMSE 3. Porous organic polymer (POPs) possessing well-defined ligands as a general platform for deploying single-site heterogeneous catalysts. *S.T. Nguyen*

9:50 PMSE 4. Microporous ladder polymers from CANAL polymerization and their applications in membrane separation. *Y. Xia*

10:10 Intermission.

10:25 PMSE 5. Nanoporous lyotropic liquid crystal polymer resin that performs molecular size-selective catalytic alcohol oxidation. *D.L. Gin, G.E. Dwulet, R.D. Noble*

10:55 PMSE 6. Tailoring microporosity of iptycene-based polymers for separation membranes and beyond. *R. Guo*

11:25 PMSE 7. Post synthetic modification of hypercrosslinked and Scholl-coupled polymers for improved carbon dioxide uptake and separation performance. *A. Alahmed, M. Briggs, D. Adams, A.I. Cooper*

11:45 PMSE 8. Porous polymers via ring opening metathesis polymerization. *Y. He, Y. Zhao, T.M. Swager*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

PMSE Young Investigators' Symposium

Financially supported by IBM; ACS Macro Letters; ACS Biomacromolecules; ACS Macromolecules; MilliporeSigma; Tosoh Bioscience; Chem; Royal Society of Chemistry

C. A. DeForest, E. Pentzer, *Organizers*

D. Baran, A. Knight, Z. A. Page, *Presiding*

8:30 Introductory Remarks.

8:35 PMSE 9. Self-healing polymers and their applications in electronics and energy. *Z. Bao*

9:05 PMSE 10. Block copolymer-based porous carbon fibers. *G. Liu, Z. Zhou, T. Liu, A. Khan*

9:35 PMSE 11. Advanced polymeric architectures for biomedical applications. *V.A. Piunova, W.C. Swope, J.E. Rice, V. Prabhu*

10:05 Intermission.

10:20 PMSE 12. Synthesis and design of functional covalent organic frameworks. *P. McGrier*

10:50 PMSE 13. Molecular and nanostructure engineering of polymers and hybrid nanostructures. *E. Egap*

11:20 PMSE 14. Synthesis and properties of "Janus-type" linear-dendritic block copolymers (LDBC)s for therapeutic applications. *D.L. Watkins*

SECTION C

Westin Boston Waterfront
Grand Ballroom A

Tough & Toughened Polymers

H. Sue, A. Takahara, A. Usuki, N. Verghese, A. F. Yee, *Organizers*

K. Ito, *Organizer, Presiding*

C. Creton, *Presiding*

8:55 Introductory Remarks.

9:00 PMSE 15. *In-situ* control of interface and phase structures of nanostructured epoxy/acrylic block copolymer blends. *H. Kishi, K. Yamada*

9:40 PMSE 16. Structure-property relationships in additive manufacturing of carbon fiber reinforced polyphenylene-sulfide. *P. Liu, J. Keum, R.K. Vasudevan*

10:00 Intermission.

10:10 PMSE 17. Toughening 3D printed polymers and nanocomposites. *R.C. Advincula*

10:50 PMSE 18. Importance of tailoring the interphase in nanocomposites: A case study. *P. Wang, S. Sarkar, P. Gulgunje, I. Odeh, D. Bajaj, N. Verghese, S. Kumar*

11:30 PMSE 19. Advanced characterization technique to evaluate fatigue properties of composite polymers. *J.L. Thambi*

SECTION D

Westin Boston Waterfront
Stone

Dynamic Bonds for Structurally Precise Polymeric Materials

N. Gavvalapalli, S. Thayumanavan, *Organizers, Presiding*

8:00 PMSE 20. Holistic structural hierarchy in nanocomposite assembly. *R. Macfarlane*

8:25 PMSE 21. Controlling phenylene ethynylene conformations with non-covalent aromatic interactions. *S.W. Thomas*

8:55 PMSE 22. Structurally ordered polymer networks through dynamic covalent chemistry. *W. Zhang*

9:25 PMSE 23. Complimentary π -stacking interactions for enhanced long-range order in 2D covalent organic frameworks. *W.A. Braunecker, K.E. Hurst, K.G. Ray, Z.R. Owczarczyk, M.B. Martinez, N. Leick, A. Keuhlen, A. Sellinger, J.C. Johnson*

9:55 Intermission.

10:10 PMSE 24. Dynamic and reconfigurable supramolecular polymers derived from hydrogen bonding and quadrupolar interactions of hybrid peptide/ π -electron molecules. *J.D. Tovar*

10:40 PMSE 25. Simple organic reactions for advanced dynamic polymers. *D. Konkolewicz, C. Proyateg, B. Zhang, E. Foster, E. Lensmeyer, Z. Digby, J. Vakil, C. Moncayo, J. Ke, J. Via*

11:05 PMSE 26. Foldable block copolymers. *M. Weck, E. Elacqua, S. Pomarico*

11:35 PMSE 27. Synthesis of [2.2]paracyclophane-inspired materials through ring-opening metathesis polymerization. *E. Elacqua*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

Eastman Chemical Student Award in Applied Polymer Science

Cosponsored by PROF

Financially supported by Eastman Chemical Company
J. C. Jenkins, *Organizer*

J. W. Gilmer, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 PMSE 28. Photochemical control of polymers. *X. Hu, S.W. Thomas*

9:05 PMSE 29. Structural tuning of charge transport properties in dioxothiophene polymers for electrochemical device applications. *S. Pittelli, A. Osterholm, E. Shen, J. Pander, M. Ochieng, J.R. Reynolds*

9:35 PMSE 30. Novel hydrophilic liquid-like slippery surfaces. *H. Vahabi, W. Wang, S. Vallabhuni, A. Kota*

10:05 Intermission.

10:25 PMSE 31. High temperature and high energy density dipolar glass polymers for electric energy storage applications. *Z. Zhang, L. Zhu*

10:55 PMSE 32. Modular elastomer photoresins for digital light processing additive manufacturing. *J.J. Schwartz, C. Thrasher, A.J. Boydston*

11:25 PMSE 33. Understanding the influence of polymer properties on the stability of high capacity silicon and lithium metal anodes. *J. Lopez, A. Pei, Y. Cui, Z. Bao*

SECTION F

Westin Boston Waterfront
Grand Ballroom D

Designing Polymers for Function in Electrochemical Energy Storage Devices

Advanced Polymer Membranes & Electrolytes

Cosponsored by ENFL

Financially supported by Joule (Cell Press)

B. Helms, D. S. Seferos, *Organizers*

J. Lopez, W. You, *Presiding*

8:10 Introductory Remarks.

8:15 PMSE 34. Synthesis and evaluation of polymeric separators for use in secondary alkaline Zn/MnO₂ batteries. *I. Kolesnichenko, J. Duay, D. Arnot, T.N. Lambert*

8:35 PMSE 35. Anion exchange membranes: Towards extreme stability and high conductivity. *Y. Kim, T.M. Swager*

8:55 PMSE 36. Conductive channel architecture in anion conducting multiblock copolymers. *P. Kohl, L. Liu, G. Huang*

9:15 PMSE 37. Highly conductive and mechanically robust OH⁻ conducting membrane for alkaline water electrolysis. *K. Zhang, M.B. McDonald, I.E. Genina, P.T. Hammond*

9:35 PMSE 38. Alkaline anion exchange membranes with chemically stable imidazolium cations. *W. You, K.M. Hugar, G.W. Coates*

10:00 Intermission.

10:15 PMSE 39. Insights on the interaction of polymer coatings with electrodeposited lithium metal. *J. Lopez, A. Pei, Y. Cui, Z. Bao*

10:40 PMSE 40. Structure-property relationship of lithium electrolytes. *B. Qiao, Y. Shibuya, R. Tataru, G. Leverick, Y. Jiang, J.A. Johnson, Y. Shao-Horn*

11:00 PMSE 41. Self-doped ion-conducting block polymers for lithium-ion battery electrolytes. *M.A. Morris, T.H. Epps*

11:20 PMSE 42. Designing novel polymer electrolytes for battery applications. *W. Zhang, M. Huang, S. Feng, Y. Shao-Horn, J.A. Johnson*

11:40 PMSE 43. Polymer electrolytes for solid state Li-air battery. *M. Huang, S. Feng, Y. Shao-Horn, J.A. Johnson*

SECTION G

Westin Boston Waterfront
Hale

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

D. Beezer, C. E. Mills, *Presiding*

8:30 PMSE 44. Colloidal TLR7/8 agonist conjugated nanoparticles for safe and synergistic cancer immunotherapy. *B. De Geest*

8:50 PMSE 45. Glycodendrimers in bioconjugates, polyplexes and as therapeutics. *B. Voit, D. Appelhans*

9:10 PMSE 46. Biodegradable acetalated dextran nanoparticles for controlled delivery of therapeutic agents in tumor tissues. *C.B. Braga, T.A. Grigolo, I. de Toledo, J.C. Milan, M.A. Meirelles, R.A. Pilli, C. Ornelas*

9:30 PMSE 47. Elastin-like polypeptide (ELP) charge impacts ELP-mCherry fusion protein self-assembly. *C.E. Mills, Z. Michaud, B.D. Olsen*

9:50 Intermission.

10:10 PMSE 48. Versatile chemistries to highly functional polyesters and polycarbonates. *D. Hult, V.J. Olsson, S. Garcia-Gallego, M. Malkoch*

10:30 PMSE 49. Nanoscopic particle expansion via photo-activation. *D. Beezer, E. Harth*

10:50 PMSE 50. Investigation of the interplay between polymer mechanochemistry and additive manufacturing (3D printing). *A.J. Boydston, B. Cao, N. Boechler*

11:10 PMSE 51. Pilot-scale production of expansile nanoparticles. *A. Colby, M.W. Grinstaff*

11:30 PMSE 52. Rapid and highly efficient on-resin peptide macrocyclization via a tertiary vinyl sulfonamide as a thiol-Michael "click" acceptor. *B.P. Sutherland, B. El-Zaatari, N. Halaszynski, S. Bai, C.J. Kloxin*

SECTION H

Westin Boston Waterfront
Grand Ballroom B

Stereochemical Enhancement of Materials Properties

M. Becker, A. P. Dove, *Organizers, Presiding*
J. G. Kenemur, R. A. Letteri, *Presiding*

8:00 PMSE 53. Chemical synthesis of stereoperfect bacterial polyesters and stereocomplexed crystalline recyclable polymers. *E.Y. Chen*

8:25 PMSE 54. Stereoccontrolled cationic polymerization of vinyl ethers using BINOL-based counteranions. *A.J. Teator, F.A. Leibfarth*

8:50 PMSE 55. Stereochemistry-directed assembly of amphiphilic block polypeptides. *R.A. Letteri, T. Nguyen, J. Fan, X. He, K.L. Wooley*

9:15 PMSE 56. Effect of stereochemistry on the mechanical properties of elastomers synthesized from renewable building blocks. *A.P. Dove, H. Prydderch, C. Stubbs, J. Worch*

9:40 PMSE 57. New catalysts for stereoselective polymerization. *G.W. Coates*

10:05 Intermission.

10:20 PMSE 58. Tacticity control through *in situ* catalyst desymmetrization. *J.A. Byers, A. Kaur, C. Manna, J.A. Kehl, M. Qi*

10:45 PMSE 59. Functional and degradable poly(ester-carbonate)s via organocatalytic ROP: Statistical structures, homo/hetero-stereocomplexation possibilities and properties. *P. Bexis, O.R. Coulembier, A.P. Dove*

11:10 PMSE 60. High iso-selective catalysts for *rac*-lactide polymerizations and copolymerizations. *N. Yuntawattana, C.K. Williams, C. Durr*

11:35 PMSE 61. Rare-earth promoted stereoselective ROP of β -lactones: Syndiotactic, isotactic or chemically tunable alternating polymers. *R. Ligny, S. Guillaume, J. Carpentier*

SECTION I

Westin Boston Waterfront
Burroughs

Probing Structure & Morphology of Polymers & Polymer Composites in Real & Reciprocal Space

Financially supported by ExxonMobil Chemical Co.
E. Heeley, D. Yablon, *Organizers, Presiding*

8:55 Introductory Remarks.

9:00 PMSE 62. Tailoring transport pathways in sulfonated block polymers. *G. Stein, P.V. Truong, R. Black*

9:30 PMSE 63. Investigating the development of crystalline morphology and orientation in poly-L-lactic acid (PLLA) under uniaxial deformation using synchrotron X-ray, mechanical, thermal and microscopy techniques. *E. Heeley, K. Billimoria, N. Parsons, L. Figiel, E. Keating, D. Hughes*

10:00 PMSE 64. Understanding the nanoscopic pore structure of a hexagonal phase lyotropic liquid crystal membrane. *B. Coscia, M.R. Shirts*

10:20 Intermission.

10:40 PMSE 65. Structure of self-assembled diblock copolymer nanoparticles determined by real and reciprocal space scattering. *G. Smith, V. Cunningham, S.L. Canning, M.J. Derry, J. Cooper, A. Washington, S.P. Armes*

11:00 PMSE 66. Flow induced polymer crystallization at high and low supercooling of the melt. *A.M. Rhoades, A.M. Gohn, J. Seo, R. Androsch, R.H. Colby*

11:20 PMSE 67. Probing phase structure and orientation effects of uniaxially stretched poly(vinylidene fluoride) films by solid-state NMR. *N.K. Jayakody, P. Stallworth, J. Jayakody, L. Zhu, Y. Li, S.G. Greenbaum*

TOSOH Lectures

Interface of Polymer Science & Biology

Sponsored by POLY, Cosponsored by PMSE

SUNDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Macroporosity

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)

N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, *Organizers*

F. Claeysens, E. Cosgriff-Hernandez, *Presiding*

1:30 PMSE 68. Porous polymer scaffolds for 3D cell culture, tissue engineering and regenerative medicine. *N.R. Cameron*

2:00 PMSE 69. Improved *in situ* seeding of 3D printed polyHIPEs using cell-releasing hydrogels. *E. Cosgriff-Hernandez, M. Whitely, P. Dhavalikar, G. Rodriguez-Rivera*

2:30 PMSE 70. Poly(4-vinylpyridine) grafted polyHIPE foams for high performance plutonium separations. *J. Pribyl, K.M. Taylor-Pashow, T.C. Shehe, B.C. Benicewicz*

2:50 PMSE 71. Dual phase change thermal diodes for enhanced rectification ratios: Theory and experiment. *A. Cottrell, S. Wang, A. Liu, W. Wang, M. Strano*

3:10 Intermission.

3:25 PMSE 72. Hierarchically structured biocompatible materials for tissue engineering. *F. Claeysens*

3:55 PMSE 73. Multifunctional porous polyHIPE foams for application in military medicine and force protection. *J.H. Wynne, C. McGann, N. Weise, J. Lundin*

4:25 PMSE 74. Shape memory polymer foams fabricated by infusing a soft polyurethane foam with stearic acid. *M. Pantaja, T. Alvarado, M. Cakmak, K.A. Cavicchi*

4:45 PMSE 75. Patterning electrospun nanofiber mats for screen printing and other applications. *H. Hu, J.V. Buddingh, B. Becher Nienhaus, G. Liu*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

PMSE Young Investigators' Symposium

Financially supported by IBM; ACS Macro Letters; ACS Biomacromolecules; ACS Macromolecules; MilliporeSigma; Tosoh Bioscience; Chem; Royal Society of Chemistry
C. A. DeForest, E. Pentzer, *Organizers*
C. Fromen, R. A. Letteri, *Presiding*

1:30 Introductory Remarks.

1:35 PMSE 76. How new materials and additive manufacturing are changing medicine. *M. Becker*

2:05 PMSE 77. Polymer functionalized graphenic materials as stem cell instructive scaffolds for tissue regeneration. *S.A. Sydlík, B. Holt, A. Arnold, Z. Wright, K. Eckhart*

2:35 PMSE 78. Viral particle/polymer composites for medical applications. *J.K. Pokorski*

3:05 Intermission.

3:20 PMSE 79. Self-immolative antibacterial polymers. *E. Palermo, C. Ergene, A. Chen*

3:50 PMSE 80. Structure-activity relationships of sequence-defined macromolecules. *C.A. Alabi*

4:20 PMSE 81. Deprotection-induced glycopolymer self-assembly (DISA). *G. Chen*

SECTION C

Westin Boston Waterfront
Grand Ballroom A

Tough & Toughened Polymers

K. Ito, H. Sue, A. Usuki, A. F. Yee, *Organizers*

A. Takahara, N. Verghese, *Organizers, Presiding*

1:30 PMSE 82. Mechanophores to detect and map stress in elastomers. *C. Creton*

2:10 PMSE 83. Isomeric silicones: Trialkylsilylsilsesquioxane (MT) and trialkylsilylsilicate (MQ) copolymers. *P. Bian, Y. Cong, Z. Li, T.J. McCarthy*

2:50 PMSE 84. Toughening PDMS through entanglements. *D. Ehrlich, J. Wang, J.A. Johnson*

3:10 Intermission.

3:20 PMSE 85. Realizing resource saving tire through innovative tough rubber compound. *K. Tsunoda*

4:00 PMSE 86. Nano-scale visualization of deformation and fracture phenomena in soft materials. *H. Jinnai*

4:40 PMSE 87. Developing molecular level understanding of ductility in polymer glasses. *S. Wang, M. Aghjeh, Z. Zhao, Y. Zheng, M. Tsige*

SECTION D

Westin Boston Waterfront
Stone

Dynamic Bonds for Structurally Precise Polymeric Materials

N. Gavvalapalli, S. Thayumanavan, *Organizers, Presiding*

1:30 PMSE 88. Bioinspired design of modular polymers and self-healing materials. *Z. Guan*

2:00 PMSE 89. Self-assembly of conjugated polyelectrolytes. *K.S. Schanze*

2:30 PMSE 90. Dynamic covalent polymers and networks based upon tunable 1,2-oxazine linkages. *A.J. Boydston, V. Kensy, B. Lynde*

3:00 Intermission.

3:15 PMSE 91. Photoinducing dynamic covalent chemistry in covalent adaptable networks: Addition fragmentation for material reconfiguration. *C. Bowman*

3:45 PMSE 92. Autonomous and non-equilibrium responses in nanomaterials using dynamic covalent bonds. *S. Thayumanavan*

4:15 PMSE 93. Dynamic networks based on metal-ligand bond interactions in polymeric ionic liquids. *R.A. Segalman*

4:45 PMSE 94. Dynamic covalent assembly of molecular ladders and grids. *T.F. Scott, S. Leguizamon, M. Dunn*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

Journal of Polymer Science Innovation Award: Symposium in honor of Rachel O'Reilly

Cosponsored by WCC

Financially supported by Wiley

J. Mahoney, *Organizer*

C. J. Hawker, *Organizer, Presiding*

1:30 PMSE 95. Synthesis of poly[n]catenanes. *S.J. Rowan*

1:55 PMSE 96. Reconfigurable all-liquid systems via nanoparticle-polymer surfactants assembled at a liquid-liquid interface. *B. Helms, T.P. Russell, W. Feng, J. Forth, A. Toor*

2:20 PMSE 97. Utilizing assembling and orthogonal chemistries for the design of materials with multiscale property control. *A.M. Kloxin*

2:45 PMSE 98. Critical sized cranial bone defect repair using 3D printed poly(ester urea) scaffold modified with biomimetic peptides that enhance bone regeneration. *M. Becker*

3:10 PMSE 99. Heterogeneous rupturing dendrimers. *M. Malkoch*

3:35 PMSE 100. Finding light in the darkness with CHIPs: A new class of polymers for thermal imaging, IR photonics and reflective coatings. *J. Pyun*

4:00 PMSE 101. (Glyco)protein-inspired polymers to combat infection. *M.I. Gibson*

4:25 PMSE 102. Celebration of the accomplishments of Rachel O'Reilly: Click functionalization of nanostructures as a postdoc to designer polymer nanostructures via biomimetic templating and crystallization-driven supramolecular assembly. *K.L. Wooley*

4:50 PMSE 103. Precision polymer self-assembly. *R.K. O'Reilly*

SECTION F

Westin Boston Waterfront
Grand Ballroom D

Designing Polymers for Function in Electrochemical Energy Storage Devices

Architected Polymeric Materials

Cosponsored by ENFL

Financially supported by Joule (Cell Press)

B. Helms, D. S. Seferos, *Organizers*

M. J. Baran, E. Vitaku, *Presiding*

1:30 Introductory Remarks.

1:35 PMSE 104. Covalent organic frameworks as a platform for pseudocapacitive energy storage. *E. Vitaku, W.R. Dichtel*

2:00 PMSE 105. Solution-processable conducting polymers for macroscale high-rate energy-storage devices. *M. Sassin, A. Hoffmaster, J.W. Long, A. Osterholm, J.R. Reynolds*

PMSE

2:20 PMSE 106. Porous polymer/graphene nanocomposites as supercapacitors. *D. Varghese, D. Adamson*

2:40 PMSE 107. From block copolymer self-assembly to 3-D nano-integrated energy storage devices. *J. Werner, G. Rodriguez-Calero, H.D. Abruna, U.B. Wiesner*

3:05 Intermission.

3:20 PMSE 108. All-organic redox-active materials designed for high volumetric capacity and low crossover in redox-flow batteries. *M.J. Baran, M.N. Braten, B. Helms*

3:40 PMSE 109. Development of nitroxide radical-containing polypeptides for battery applications. *T. Nguyen, J. Fan, R.A. Letteri, X. He, K.L. Wooley*

4:00 PMSE 110. Biomass-based porous electrodes for stretchable energy storage devices. *M. Gao, Y. Lin, C. Shih, W. Lee, W. Chen, C. Chueh*

4:20 PMSE 111. Biocompatible and biodegradable ionic liquid polymer composite as electrolyte for energy storage device. *V. Krishnadas, L. Filardi, A. Kapetanakis, E. Ellis, J. Shirtz, N. Rosselli, T. Hannah, I. Nashed*

4:40 PMSE 112. Novel polymeric binder for the silicon anode of lithium-ion batteries. *B. Hu, S. Jiang, J. Zhang, Z. Zhang, L. Zhang*

5:00 PMSE 113. Wetness-resistant adhesive and mechanically robust polymer binder for high-capacity silicon anode. *P. Cao, G. Yang, B. Li, A.P. Sokolov, J. Nanda, T. Saito*

SECTION G

Westin Boston Waterfront
Hale

General Papers & New Concepts in Polymeric Materials

E. Harth, Organizer

A. C. Keyes, E. M. Sletten, Presiding

1:30 PMSE 114. Elucidating the impact of dispersity on the ^{19}F NMR dynamics and MRI performance of fluorinated oligomers. *J. Lawrence, C. Zhang, D. Kim, C.J. Hawker, A. Whittaker*

1:50 PMSE 115. Precision polymer synthesis using light. *C. Boyer*

2:10 PMSE 116. Nano-sized ionic materials. *D. Dastan, H. Garmestani*

2:30 PMSE 117. On-demand degradable hydrogel materials. *P. Shieh, J.A. Johnson*

2:50 PMSE 118. Controlled photoinitiated expansion of nano-networks. *A.C. Keyes, H. Basbug, U. Ha, D. Beezer, E. Harth*

3:10 Intermission.

3:30 PMSE 119. Design of polypeptide and protein-based bioconjugates and their self-assembly into functional biomaterials. *S. Lecmannoud, E. Garanger*

3:50 PMSE 120. Exploring the impact of ionic liquids in imprinted nano-structure formation and decay. *A. Karim, A. Masoud, S. Bhadauriya, A. Huq*

4:10 PMSE 121. Responsive fluoros polymeric materials. *E.M. Sletten*

4:30 PMSE 122. Simultaneously-cured orthogonal resins for multimaterial additive manufacturing. *A.J. Boydston, J.J. Schwartz*

SECTION H

Westin Boston Waterfront
Grand Ballroom B

Stereochemical Enhancement of Materials Properties

M. Becker, A. P. Dove, Organizers, Presiding

A. Buchard, J. A. Byers, Presiding

1:30 PMSE 123. Using stereochemistry to direct polymer self-assembly. *M.C. Arno, M. Inam, A.P. Dove, R.K. O'Reilly*

1:55 PMSE 124. Stereocomplex formation of architecturally complex stereoblock polylactide. *T. Isono, T. Satoh*

2:20 PMSE 125. Ring-opening polymerization of renewable chiral monomers: Catalytic strategies and monomer design towards biopolymers with high glass-transition temperatures. *A. Buchard*

2:45 PMSE 126. Stereocomplex driven macromolecular chemotherapeutics and delivery agents. *J. Hedrick, Y. Yang, N. Park*

3:10 Intermission.

3:25 PMSE 127. Influencing sustainable polymer properties with isohexide stereochemistry: Synthesis and material investigations. *J.G. Kenemur, R.J. Kieber, S. Silver*

3:50 PMSE 128. Polymerization of heterocycles using organometallic complexes: A simple approach to sequence control in polymer synthesis. *C.M. Thomas*

4:15 PMSE 129. Adjusting properties of biocompatible thermoplastics via π -bond stereochemistry. *A.P. Dove, H. Pryderch, J. Worch, C. Stubbs*

4:40 PMSE 130. Development of new chirality-switchable polymeric materials based on the solvent-dependent helix inversion of the macromolecular helicity. *Y. Nagata, M. Suginome*

5:05 PMSE 131. Monomer design for the stereochemical and topological control of aliphatic polyesters and cyclopolyethers. *M.P. Shaver*

SECTION I

Westin Boston Waterfront
Burroughs

Probing Structure & Morphology of Polymers & Polymer Composites in Real & Reciprocal Space

Real Space & Microscopy

Financially supported by ExxonMobil Chemical Co.

E. Heeley, D. Yablon, Organizers, Presiding

1:30 PMSE 132. Cryo scanning electron microscopy of gels and microgels. *M. Libera*

2:00 PMSE 133. Identifying size-dependent mechanical properties of polymers using nanoindentation. *L. Li, N. Alsharif, K.A. Brown*

2:30 PMSE 134. Studying the interphase of rubber nanocomposites by using quantitative nanomechanical technology of peak force AFM. *M. Tian*

2:50 Intermission.

3:10 PMSE 135. Crossing lamellae morphology in LLDPE. *S. Yakovlev, P. Brant, K.H. Downing*

3:40 PMSE 136. Nanoscale morphological characterization of the active layer in bulk-heterojunction organic photovoltaic systems using electron microscopy methods. *A. Herzog*

4:10 PMSE 137. Atomic force microscopy study of interfacial broadening between two polymers. *C. He, S. Shi, X. Wu, T.P. Russell, D. Wang*

TOSOH Lectures

Interface of Polymer Science & Biology

Sponsored by POLY, Cosponsored by PMSE

MONDAY MORNING

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Mesoporosity

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)

N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, Organizers

U. Steiner, B. D. Vogt, Presiding

8:30 PMSE 138. Block copolymer based porous materials. *U.B. Wiesner*

9:00 PMSE 139. Highly porous N-doped nanocarbons by ATRP. *K. Matyjaszewski*

9:30 PMSE 140. Hierarchically porous polymers via hyper-cross-linking of block copolymer precursors. *M. Seo*

9:50 PMSE 141. Ultrafiltration membranes from polymerization of self-assembled block copolymer mesophases. *S. Qavi, A. Lindsay, M.A. Firestone, R. Foudazi*

10:10 Intermission.

10:25 PMSE 142. Porous self-assembled block-copolymer scaffolds for nanomaterial fabrication. *U. Steiner*

10:55 PMSE 143. Design of polymeric templates and novel processing routes for ordered porous materials through cooperative assembly. *B.D. Vogt, X. Xia, G. Bass, M. Becker*

11:25 PMSE 144. Bimodal porous polymer monolith as a sorbent for solid phase extraction technique. *S. Thomas, H.J. Wirth, W.B. Han, R. Barber, A. Gooley, P. Nesterenko, D. Arrua, E.F. Hilder*

11:45 PMSE 145. Nitrogen enriched mesoporous carbon nitrides: Applications in heterogeneous (photo) catalysis. *S. Talapaneni, V. Ajayan*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

PMSE Young Investigators' Symposium

Financially supported by IBM; ACS Macro Letters; ACS Biomacromolecules; ACS Macromolecules; MilliporeSigma; Tosoh Bioscience; Chem; Royal Society of Chemistry

C. A. DeForest, E. Pentzer, Organizers

H. Chung, L. Zarzar, Presiding

8:30 Introductory Remarks.

8:35 PMSE 146. Developing routes to interlocked polymers. *S.J. Rowan*

9:05 PMSE 147. Brush-architected PEG as an effective gene regulation vector. *K. Zhang*

9:35 PMSE 148. Thermoresponsive polymers for biofabrication of cells and tissues. *A. Ekensear*

10:05 Intermission.

10:20 PMSE 149. Volumetric photopolymerization confinement with wavelength-selective photoinitiation and photoinhibition. *T.F. Scott, H.L. van der Laan, M. Cole*

10:50 PMSE 150. Durable, resilient elastomers fabricated by light: The power of dual cure in 3D printing. *K. Chen*

11:20 PMSE 151. Poly(pept)oides: From a new class of polymers to functional systems for diagnosis and therapy. *M. Barz*

SECTION C

Westin Boston Waterfront
Grand Ballroom A

Tough & Toughened Polymers

K. Ito, A. Takahara, N. Varghese, A. F. Yee, Organizers
H. Sue, A. Usuki, Organizers, Presiding

8:00 PMSE 152. Slide-ring materials: Novel molecular concept for tough polymers. *K. Ito*

8:40 PMSE 153. Polyrotaxane blend toughened by movable crosslinked structure. *K. Nomura, T. Takamoto, S. Kobayashi*

9:00 PMSE 154. Slipping in wide interval: Polyrotaxane with low host coverage and its tough slide-ring gels. *L. Jiang, C. Liu, K. Mayumi, K. Kato, H. Yokoyama, K. Ito*

9:20 PMSE 155. Highly stretchable self-recovering and adhesive polyrotaxane thermoplastic elastomer. *R. Maeda, R. Kobayashi, M. Koichi, H. Yokoyama, K. Ito*

9:40 PMSE 156. Role of fast polymer dynamics as quantified by inelastic neutron scattering on the mechanical toughness of polymeric materials. *K. Ito, A. Burns, A.F. Yee, J. Lenhart, K.A. Masser, M. Tyagi, C.L. Soles*

10:00 Intermission.

10:10 PMSE 157. In situ synchrotron X-ray diffraction/scattering study of polymeric solids under various mechanical deformation modes. *A. Takahara, Y. Higaki, K. Kojio*

10:50 PMSE 158. Super impact absorbing bio-alloys by morphology control. *J. Kawada*

SECTION D

Westin Boston Waterfront
Stone

Dynamic Bonds for Structurally Precise Polymeric Materials

N. Gavvalapalli, S. Thayumanavan, Organizers, Presiding

8:00 PMSE 159. Cation-silicon interactions and influence on self-assembly. *R.S. Klausen*

8:25 PMSE 160. Responsive materials at solid-fluid and fluid-fluid interfaces. *T. Errick*

8:55 PMSE 161. Active manipulation of intramolecular hydrogen bonds enables synthesis and solution processing of a solvent-resistant rigid polymer. *L. Fang, C. Zhu*

9:20 PMSE 162. Stimuli-responsive non-covalent polymer networks. *C. Weder*

9:50 Intermission.

10:05 PMSE 163. Using dynamic covalent bonds to access stretchable semiconducting polymers for flexible electronics. *C.K. Luscombe*

10:35 PMSE 164. Dynamic covalent chemistry based upon nucleophilic aromatic substitution. *T.M. Swager, W. Ong*

11:05 PMSE 165. Dynamic π -conjugated polymer ionic networks. *N. Gavvalapalli*

11:30 PMSE 166. Seeded growth of 2D COF single crystals. *W.R. Dichtel, A.M. Evans, N. Flanders, L.R. Parent, N.C. Gianneschi*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

PMSE Future Faculty Symposium

Polymers Inspired by Biological Systems

Financially supported by Solvay Specialty Polymers; Macromolecules; JACS; Chemistry of Materials; ACS Macro Letters; ACS Central Science; ExxonMobil

L. M. Campos, M. Grunlan, J. L. Jessop, Organizers, Presiding

8:55 Introductory Remarks.

9:00 PMSE 167. Navigating industrial research, start-ups and intellectual property. *C.J. Hawker*

9:30 PMSE 168. Harnessing the power of supramolecular chemistry and post-translational modifications for bioinspired materials science. *D. Mzhdehi*

10:00 PMSE 169. Dynamic patterning of signaling proteins to hydrogels through a reversible thiol-ene bioconjugation. *J.C. Grim, T. Brown, B.A. Aguado, K.S. Anseth*

10:30 Intermission.

10:45 PMSE 170. Redox controlled molecular muscles: A daisy-chain polymer using pumping followed by polymerization. *Y. Qiu, J.F. Stoddart*

11:15 PMSE 171. Dynamic, responsive DNA-like polymers. *S. Mavila, B.T. Worrell, T.M. Goldman, H. Culver, C. Wang, B. Fairbanks, D. Domaille, S. Pattanayak, M. McBride, C. Bowman*

11:45 PMSE 172. Genetically encoded, chemically elaborated polymeric materials. *S. Sim*

12:15 Concluding Remarks.

SECTION F

Westin Boston Waterfront
Grand Ballroom D

Designing Polymers for Function in Electrochemical Energy Storage Devices

Macromolecular Design for Stability, Conductivity & Selectivity

Cosponsored by ENFL

Financially supported by Joule (Cell Press)
B. Helms, D. S. Seferos, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 PMSE 173. Computation and experiment on organic redox flow batteries: A report from the trenches. *A. Aspuru-Guzik*

9:05 PMSE 174. Designing organic redox polymers for energy applications including redox flow batteries. *S.D. Minteer*

9:35 PMSE 175. Impact of backbone structure and particle morphology on the electrochemical performance of soluble redox-active polymers. *E.C. Montoto, Y. Cao, K. Hernandez-Burgos, Z. Gossage, M.N. Braten, B. Helms, J. Moore, J. Rodriguez Lopez*

10:05 Intermission.

10:25 PMSE 176. Measuring transport on multiple scales in polymeric materials. *L.A. Madsen*

10:55 PMSE 177. Entropic and quantum effects in microporous polymer membrane assemblies: Insights from first-principles based simulations and spectroscopy. *T. Pascal, D. Prendergast*

11:25 PMSE 178. Expanding the synthetic toolbox for functionalizing the pores of microporous polymer membranes. *S. Sahu, S.M. Meckler, M.N. Braten, M.J. Baran, B. Helms*

SECTION G

Westin Boston Waterfront
Hale

Surface, Interface & Coating Materials

Synthesis & Fabrication

Cosponsored by COLL and POLY
Financially supported by PPG Industries, Inc.

S. Jiang, X. Yong, *Organizers*
Z. Cao, *Organizer, Presiding*

8:00 PMSE 179. Growing polymer chains in dense environment. *K. Matyjaszewski*

8:25 PMSE 180. Surface patterning of nanoparticles. *E. Kumacheva*

8:50 PMSE 181. Reduced confinement and its effect on stability in strong polyelectrolyte brushes. *W. Chen, M. Menzel, K. Simancus, H. Xu, T. Watanabe, O. Prucker, J. Ruehe, C.K. Ober*

9:05 PMSE 182. Thin film engineering of hydrophobic phthalocyanine containing nanospheres by layer-by-layer (LbL) method. *Y. Belce, F.C. Cebeci*

9:20 PMSE 183. Electrospun nanofibers of hydrogen-bonded complexes. *V. Selin, P. Karimneshani, H. Hlushko, A. Gaikwad, S.A. Sukhishvili*

9:35 PMSE 184. Versatile approach to constructing well-defined thiolated surfaces. *R. Surmaitis, J.D. Delgado, J.B. Schlenoff*

9:50 Intermission.

10:00 PMSE 185. Nanostructured composite coatings via infiltration of polymers into nanoparticle films. *D. Lee*

10:25 PMSE 186. Low temperature crosslinking of various polymer films with diazo-bisulfonil crosslinker. *J. Kost, O. Prucker, J. Ruehe*

10:40 PMSE 187. Synthesis and self-assembly of Janus nano-dumbbells. *F. Liu, Y. Mansoorieh, J. Henjum, S. Jiang*

10:55 PMSE 188. Prevention of marine fouling by slippery coatings. *S. Kalle, S. Amini, N. Vogel, A. Miserez, J. Aizenberg*

11:20 PMSE 189. Nanotube decorated interfaces via template-less, electropolymerization of thiophene-based monomers. *C. Szczepanski, I. M'Jid, T. Darmanin, G. Godeau, F. Guittard*

11:35 PMSE 190. ATRP catalysts on surfaces and interfaces: Controlling polymer growth at the nanoscale. *M. Fantin, F. Lorandi, Y. Wang, E. Benetti, K. Matyjaszewski*

SECTION H

Westin Boston Waterfront
Grand Ballroom B

Chemistry of Materials Lectureship & Best Paper Award

Cosponsored by INOR

Financially supported by Chemistry of Materials
J. M. Buriak, C. L. Soles, C. Toro, *Organizers, Presiding*

8:00 Introductory Remarks.

8:10 PMSE 191. Mechanical properties of semiconducting polymers for energy and virtual touch. *D.J. Lipomi*

8:55 PMSE 192. Mechanical properties of semiconducting polymers: From molecular simulations to process design. *S.E. Root, D.J. Lipomi*

9:25 PMSE 193. Stretching polymer semiconductors to probe mechanical properties and the role of polymer deformation on stretchable device behavior. *B. O'Connor, N. Balar, T. Sun, P. Sen, R. Song*

9:50 Intermission.

10:00 PMSE 194. Experimental characterization of the thermal and mechanical properties of semiconducting polymers. *M.A. Alkhadra, S.E. Root, D.J. Lipomi*

10:20 PMSE 195. New uses of soft polymers. *G.M. Whitesides*

10:45 PMSE 196. 2D materials based epidermal and implantable conformal bioelectronics. *N. Lu*

11:10 PMSE 197. Wrinkle relaxation as a probe of thin film polymer dynamics. *J. Chung, J.F. Douglas, C.M. Stafford*

11:35 PMSE 198. Opportunities and challenges for reliable flexible and stretchable polymer devices. *R. Dauskardt*

SECTION I

Westin Boston Waterfront
Burroughs

Probing Structure & Morphology of Polymers & Polymer Composites in Real & Reciprocal Space

Advanced Methods

Financially supported by ExxonMobil Chemical Co.
E. Heeley, D. Yablon, *Organizers, Presiding*

9:00 PMSE 199. Soft matter structure measurement by polarized resonant soft X-ray scattering. *D. DeLongchamp*

9:30 PMSE 200. Visualization of novel functional crosslinker provides insight into spatial heterogeneities in colloidal and bulk hydrogels. *C. Ullal, A. Karanastasis, Y. Zhang, G. Kenath, J. Bewersdorf*

9:50 PMSE 201. *In-Situ* confocal rheology measurements of local fiber displacements: Revealing non-affine deformations in sheared type-I collagen gels. *K. Tran Ba, L. Kaufman*

10:10 Intermission.

10:30 PMSE 202. Optimizing AFM results through better sample preparation. *C. Johnson*

11:00 PMSE 203. Lamellae morphology of polyethylene blown films by bimodal AFM. *B. Welke, J. Throckmorton, A.I. Norman*

11:30 PMSE 204. Probing chemistry and structure of polymers with energy-tunable X-rays. *G. Su, I. Cordova, A. Kusoglu, W. White, L. Renna, S. Ardo, D. Prendergast, C. Wang*

TOSOH Lectures

Interface of Polymer Science & Biology

Sponsored by POLY, Cosponsored by PMSE

MONDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Microporosity

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)
N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, *Organizers*

R. Smaldone, K. Zhang, *Presiding*

1:30 PMSE 205. Highly microporous free-radically generated polymeric materials using a novel contorted monomer. *M.S. Wendland*

2:00 PMSE 206. Designing conjugated porous polymers for visible light photocatalysis. *K. Zhang*

2:30 PMSE 207. Low-temperature synthesis and *in situ* deprotection of three dimensional covalent organic frameworks. *X. Ma, S. Goldstein, T.F. Scott*

2:50 PMSE 208. Functionalized porous aromatic frameworks for rapid boron removal from aqueous solutions. *J. Kamcev, M.K. Taylor, J.R. Long*

3:10 Intermission.

3:25 PMSE 209. Beyond aromatic stacking – Expanding the library of non-covalent interactions for the synthesis of crystalline 2D polymers. *R. Smaldone*

3:55 PMSE 210. Benzoxisoxazole-linked covalent organic frameworks. *P. McGrier*

4:25 PMSE 211. Improving the stability of PIM-1 via vapor phase infiltration - atomic layer deposition (VPI-ALD). *F. Zhang, E. McGuinness, M. Losego, R.P. Lively*

4:45 PMSE 212. Polybenzimidazole-derived carbon molecular sieves with microcavities and ultra-microporous channels achieving superior membrane H₂/CO₂ separation properties. *M. Omidvar, H. Lin*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

PMSE Young Investigators' Symposium

Financially supported by IBM; ACS Macro Letters; ACS Biomacromolecules; ACS Macromolecules; MilliporeSigma; Tosoh Bioscience; Chem; Royal Society of Chemistry
C. A. Deforest, E. Pentzer, *Organizers*
F. A. Leibfarth, G. Miyake, *Presiding*

1:30 Introductory Remarks.

1:35 PMSE 213. Postpolymerization modification of activated polyacrylamides. *M.A. Hillmyer*

2:05 PMSE 214. Multifunctional nanomaterials through self-assembly: Design, properties, and devices. *K. Mirica*

2:35 PMSE 215. Tuning material properties through the inclusion of orthogonal supramolecular and dynamic covalent bonds. *D. Konkolewicz, B. Zhang, C. Procyateg, Z. Digby, E. Foster, E. Lensmeyer, J. Vakil, C. Moncayo, J. Via, J. Ke, J. Sparks*

3:05 Intermission.

3:20 PMSE 216. Five alive: Functional poly(pentenamers) towards a new class of bottlebrush systems and their place within the structure-property genome. *J.G. Kennemur, W.J. Neary, T. Isaia*

3:50 PMSE 217. Bundlemer polymerization: A peptide-based macromonomer approach to hierarchical materials synthesis. *C.J. Kloxin*

4:20 PMSE 218. Local structure and relaxation dynamics in the brush of polymer-grafted nanoparticles. *M.J. Hore, Y. Wei*

SECTION C

Westin Boston Waterfront
Grand Ballroom A

Tough & Toughened Polymers

K. Ito, H. Sue, A. Takahara, A. Usuki, N. Verghese, *Organizers*
A. F. Yee, *Organizer, Presiding*
H. Jinnai, *Presiding*

1:30 PMSE 219. Nanoscale strengthening and toughening phenomena in polymers. *H. Sue*

2:10 PMSE 220. Synergistic effects of additives to improve the crack propagation resistance in PC and PC copolymers. *D. Bajaj, P. Bajaj, J. Goossens, V. Ramakrishnan, H. Goossens*

2:30 PMSE 221. Dual-crosslinking design for resilient lithium ion conductor. *J. Lopez, Y. Sun, Y. Cui, Z. Bao*

2:50 PMSE 222. Design principles of extremely tough cyclic peptide polymers. *M.K. Kolel-Veetil, C. So, K. Fears*

3:10 Intermission.

3:20 PMSE 223. Model epoxy resin toughened with nanoscale toughening agents. *R.A. Pearson*

4:00 PMSE 224. Optimization of network properties via thermodynamic manipulation of phase separation during polymerization of multifunctional methacrylates in the presence of poly(n-alkyl methacrylate). *C. Szczepanski, J.M. Torkelson*

4:20 PMSE 225. Synthesis of protein-based thermoplastics through site-specific protein modification. *W. Chan, B.D. Olsen*

4:40 PMSE 226. Synthesis of polyamide 1 in supercritical carbon dioxide & its crystallization behavior effect on polyamide 11. *D. Yuan, X. Cai*

PMSE

5:00 PMSE 227. Toughened and flame retardant polybenzoxazine systems. *Y. Li, C. Zhao, H. Li, H. Sue*

SECTION D

Westin Boston Waterfront
Stone

Dynamic Bonds for Structurally Precise Polymeric Materials

N. Gavvalapalli, S. Thayumanavan, *Organizers, Presiding*

1:30 PMSE 228. Dynamic covalent polymers and networks with closed-loop lifecycles. *B. Helms, P.R. Christensen, A. Scheuermann, K. Loeffler*

2:00 PMSE 229. Mechanically coupled dynamics in polymers. *S. Craig*

2:30 PMSE 230. No dynamics without defects: The role of doping for dynamic crosslinks in polyelectrolyte complexes. *J.B. Schlenoff, H. Fares*

3:00 Intermission.

3:15 PMSE 231. Dynamic covalent single-chain nanoparticles. *E.B. Berda*

3:45 PMSE 232. Dynamic bonds in twistacenes, helicenes, and macrocycles. *C.P. Nuckolls*

4:15 PMSE 233. Non-covalent protein complexes for intracellular delivery of functional cargo. *G.N. Tew*

4:45 PMSE 234. Light-responsive polymers as photo-reversible dynamic soft-bonding materials. *C.J. Barrett, T.H. Borchers, K. Edwards*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

PMSE Future Faculty Symposium

Polymers for Advancements in Biological Systems

Financially supported by Solvay Specialty Polymers; Macromolecules; JACS; Chemistry of Materials; ACS Macro Letters; ACS Central Science; ExxonMobil

L. M. Campos, M. Grunlan, J. L. Jessop, *Organizers, Presiding*

1:25 Introductory Remarks.

1:30 PMSE 235. Pursuing the academic path – research and life matters. *P.T. Hammond*

2:00 PMSE 236. Designing materials as building blocks for life. *S. Camarero-Espinosa*

2:30 PMSE 237. Engineering hierarchical polymers to control biomolecular transport. *D.J. Mai, B.D. Olsen*

3:00 Intermission.

3:15 PMSE 238. Decorating biomolecules and bio-structures with metallic conducting polymers. *L. Ouyang, A. Elfving, C. Fonseca, W. Cai, O. Inganas*

3:45 PMSE 239. Synthetic bioadhesive matrix facilitates muscle stem cell transplantation and engraftment in dystrophic diaphragm. *W. Han, S. Anderson, M. Mohiuddin, Y. Jang, A. Garcia*

4:15 PMSE 240. Overcoming antibiotic resistance via supramacromolecular strategy. *X. Li, J.C. Barnes*

4:45 PMSE 241. Gellan hydrogels for the immobilization of mesenchymal stem cells. *A. Battigelli, A. Shukla*

5:15 Concluding Remarks.

SECTION F

Westin Boston Waterfront
Grand Ballroom D

Designing Polymers for Function in Electrochemical Energy Storage Devices

Dynamic Aspects of Macromolecular Structure & Function

Cosponsored by ENFL

Financially supported by Joule (Cell Press)

B. Helms, D. S. Seferos, *Organizers, Presiding*

1:30 Introductory Remarks.

1:35 PMSE 242. Tailoring supramolecular polymers for high capacity electrodes in lithium-ion batteries. *A. Coskun*

2:05 PMSE 243. Organic materials for sustainable electrochemical energy storage. *Z. Chen*

2:35 PMSE 244. Ion transport in ionomers and polyelectrolyte solutions for lithium batteries. *K.M. Diederichsen, E.J. McShane, B.D. McCloskey*

3:05 Intermission.

3:25 PMSE 245. Correlations in polymer electrolytes. *M. Olvera De La Cruz, B. Ma, T.D. Nguyen, V. Pryamitsyn*

3:55 PMSE 246. Self-assembly of charged-neutral block copolymers. *L.M. Campos*

4:25 PMSE 247. Crosslinked ionomers for use as magnesium-sulfur battery cathode coatings. *H.O. Ford, L.C. Merrill, P. He, J.L. Schaefer*

SECTION G

Westin Boston Waterfront
Hale

Surface, Interface & Coating Materials

Theory, Simulation & Mechanism Study

Cosponsored by COLL and POLY

Financially supported by PPG Industries, Inc.

Z. Cao, S. Jiang, *Organizers*

X. Yang, *Organizer, Presiding*

1:30 PMSE 248. Effects of morphology on the mechanical properties of heterogeneous polymer-grafted nanoparticle networks. *T. Zhang, B.L. Mbang, V.V. Yashin, A. Balazs*

1:55 PMSE 249. Protein surface patches drive the stability in non-aqueous solution. *M. Olvera De La Cruz, B. Qiao, T. Nguyen*

2:20 PMSE 250. Dispersy-enhanced responsive properties in polyelectrolyte brushes. *M.L. Robertson, V. Yadav, Y.A. Jaimes-Lizcano, J. Conrad, M.K. Mahanthappa*

2:35 PMSE 251. Carbon nanotube dispersion in solvents and polymer solutions: Mechanisms, assembly, and preferences. *C. Pramanik, J. Gissing, S. Kumar, H. Heinz*

2:50 PMSE 252. Mechanisms and interactions revealed by post-deposition coffee ring formation in droplets on thin polyester films. *S. Islam, O.D. Velev*

3:05 PMSE 253. Mechanism of dissolution induced dewetting of stable polymer films under liquid water organic mixture: Role of diffusion length and substrate wettability. *S. Sahoo, A. Das, R. Mukherjee*

3:20 Intermission.

3:30 PMSE 254. pH-responsive polymer-grafted nanoparticles: From colloidal monolayer to Pickering emulsion. *X. Yang, S. Qin, J. Kang*

3:55 PMSE 255. Interfacial molecular mechanics of mussel-inspired polymers. *P. Delparastan, K. Malollari, P.B. Messersmith*

4:20 PMSE 256. Modeling evaporation-driven deposition of Janus particles. *S. Qin, X. Yang*

4:35 PMSE 257. Corona phase molecular recognition and sensing for a small therapeutic based on amphiphilic polymer wrapped single walled carbon nanotubes. *J. Dong, M. Strano*

4:50 PMSE 258. 3D printing peristome-surface of nepenthes for directional liquid transportation control. *Z. Dong*

5:05 PMSE 259. Structural color with “air-borne pigments” via direct immersion annealing (DIA) of polymer thin films. *I. Zvonkina, A. Karim, A. Nallapaneni*

SECTION H

Westin Boston Waterfront
Grand Ballroom B

Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by IKA Works, Inc.; Chemglass Life Sciences; Pure Process Technology; Kurt J. Lesker Company; LC Technology Solutions; Strem Chemicals, Inc.; Agilent Technologies

C. Di, A. Dudnik, L. Fang, J. Mei, *Organizers*

Y. Wang, *Presiding*

1:30 PMSE 260. Design of intrinsically stretchable polymer semiconductors. *Z. Bao*

2:00 PMSE 261. Molecular architecture effect of oligosaccharide-based block copolymers for stretchable electrical memory devices. *C. Hung, S. Nakahira, T. Isono, S. Tung, T. Satoh, W. Chen*

2:30 PMSE 262. Methods for measuring and predicting the mechanical properties of semiconducting polymers. *D.J. Lipomi*

3:00 PMSE 263. Biodegradable and stretchable electronic materials for transient electronics. *H. Tran, V. Feig, J. Xu, Z. Bao*

3:15 Intermission.

3:30 PMSE 264. Precisely probe the mechanical properties of conjugated polymeric thin films. *X. Gu, S. Zhang*

4:00 PMSE 265. Flexible photodetectors based on organic semiconductors. *Y. Guo*

4:30 PMSE 266. Conjugation break spacers and flexible linkers as tools to engineer the properties of semiconducting polymers. *K.A. Sivula*

5:00 PMSE 267. Fabrication of highly conductive silver nanowires flexible conductor based on polydopamine-modified goose down network. *C. Zhu*

5:15 PMSE 268. Vapor-printed polymers for wearable thermoelectric generators. *L.K. Allison, T.L. Andrew*

SECTION I

Westin Boston Waterfront
Burroughs

Probing Structure & Morphology of Polymers & Polymer Composites in Real & Reciprocal Space

Polymer Composites

Financially supported by ExxonMobil Chemical Co.

E. Heeley, D. Yablon, *Organizers, Presiding*

1:30 PMSE 269. Interface and interphase in composites of polymers and 1D/2D nanomaterials. *J. Gupta, C. Wan, D.M. Haddleton, H. Amari, E. Heeley, T. McNally*

2:00 PMSE 270. MoS₂ dispersed epoxy nanocomposite: Influence of solvent and surface chemistry to local chemical network formation and its influence on nanoscale toughening mechanism. *D. Nepal, J. Ryan, R. Wheeler, G.S. Kedziora, N. Pestian, S. Roy, J. Moller, A. Sharits, I.E. Pavel Sizemore*

2:30 PMSE 271. Design and application of fluorescent molecular probes to composite materials. *J.W. Woodcock, R. Beams, R.J. Sheridan, S. Seethamraju, J. Gilman, S. Stranick*

2:50 PMSE 272. Self-assembling nanocomposite tectons: Making ordered nanomaterials from soft building blocks. *P. Santos, R. Macfarlane*

3:10 PMSE 273. Probing local polymer dynamics and water diffusion using aquafuor in composites. *S. Seethamraju, J.W. Woodcock, R. Beams, S. Stranick, J. Gilman*

3:30 Concluding Remarks.

TOSOH Lectures

Nanocomposites & Nanostructured Materials

Sponsored by POLY, Cosponsored by PMSE

Undergraduate Research Posters

Polymer Chemistry

Sponsored by CHED, Cosponsored by PMSE, POLY and SOCED

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

E. Harth, *Organizer*

8:00 – 10:00

415-424, 426, 430, 431-432, 434, 438, 440-441, 443, 447-448, 450-451, 453-455, 457, 463-465, 468, 471, 473, 479, 481, 483, 485-486, 491, 495, 498, 501, 505-507, 509, 511, 518, 521-523, 526, 528-530, 533, 535-537, 540-541, 543-545, 550-552, 554-555, 557, 560-563, 569-570, 574-576, 579, 597. See subsequent listings.

TUESDAY MORNING

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Macroporosity

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)

N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, *Organizers*

R. Backov, A. Bismarck, *Presiding*

8:30 PMSE 274. Emulsion-templated polymers:

Superabsorbents, stimulus-response, shape memory, renewable resources, and encapsulation. *M.S. Silverstein*

9:00 PMSE 275. Integrative Chemistry toward inorganic, hybridized and living macrocellular foams: “Out of the box” heterogeneous catalysis. *R. Backov*

9:30 PMSE 276. High performance polymer foams: How to push lots of air into PEEK, PEKK and TPI. *A. Menner, D. Rusakov, A. Bismarck*

9:50 PMSE 277. Preparation of monolithic polycaprolactone foams with controlled morphology by thermally induced phase separation. *O. Onder, E. Yilgor, I. Yilgor*

10:10 Intermission.

10:25 PMSE 278. Any good? Foam templating as route for tailor-made macroporous polymer foams. *M. Jalalian, Q. Jiang, A. Bismarck*

10:55 PMSE 279. Patterning of porous polymer membranes via vapor phase deposition. *G. Dianat, M. Gupta*

11:15 PMSE 280. Multifunctional bio-based porous materials with controlled hydrophilicity. *T. Lerouge, B. Le Droumaguet, O. Pitois, P. Coussot, D. Grande*

11:35 PMSE 281. Prediction and control of organic xerogel microstructure: Experiments and modelling. *M. Prostredny, P. Mulheran, A. Fletcher*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

Bioconjugate Chemistry Lectureship & Award: Symposium in honor of Wolfgang Parak

Cosponsored by PROF

Financially supported by Bioconjugate Chemistry (ACS Journal)

C. England, E. B. Lavik, D. McDaniel, B. D. Smith, J. van Hest, G. Zheng, *Organizers*

V. M. Rotello, *Organizer, Presiding*

9:00 PMSE 282. Nanotechnology approaches to biological cellular therapies. *P.S. Weiss, S.J. Jonas*

9:35 PMSE 283. Nanobiotics: Mechanism of antibacterial activity of engineered nanoparticles. *N. Kotov, U. Kadiyala, S. VanEpps, A. Violi, Y. Wang, P. Elvati*

10:10 PMSE 284. Chemical assembly of single nanocrystals. *P. Mulvaney, H. Zhang, C. Kinnear*

10:45 PMSE 285. Towards understanding nanoparticles as complex dynamic identities comprising core, surface coating, bio-conjugation, and adsorbed (bio-) molecules. *W. Parak*

SECTION C

Westin Boston Waterfront
Stone

Multifunctional Nanocomposites & Surface Damage Phenomena in Polymers

In Honor of Prof. Hung-Jue Sue's 60th Birthday

Financially supported by Southwest Petroleum University; Formosa Plastics Co., USA; Akron Ascent Innovations, LLC; ExxonMobil; Kaneka Americas Holding, Inc.

Y. Li, D. Liu, D. Sun, K. White, *Organizers*
M. Kotaki, L. Sun, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 PMSE 286. Progresses in fundamental understanding of mechanical properties of polymers and their nanocomposites. *H. Sue*

8:50 PMSE 287. Structure and functional properties of novel (natural clay nanotube/polymer) nanocomposites. *A. Takahara, Y. Higaki, W. Ma*

9:20 PMSE 288. Processing behavior of polyamide nanocomposites for selective laser sintering. *R.A. Pearson, G. Esposito, P. Tanasansopaporn, Y. Wang*
9:50 Intermission.

10:00 PMSE 289. Water harvesting from atmospheric airborne particles by electrospinning-enabled bio-inspired techniques. *J. Wong*

10:30 PMSE 290. Polymeric materials in personal care products. *P. Charoensrisomboon*

11:00 PMSE 291. Stabilization of thin-film coatings by nanomprinted surface micro- and nanostructures on polymers. *X. Cheng*

11:30 PMSE 292. Bio-inspired multi-functional materials based on a polymer bilayer structure. *S. Zeng, R. Li, D. Zhang, L. Sun*

SECTION D

Westin Boston Waterfront
Webster

Roy W. Tess Award: Symposium in honor of Christopher Bowman

Cosponsored by PROF

A. B. Scranton, *Organizer*
A. Guymon, *Organizer, Presiding*

8:30 PMSE 293. Photoactivation for polymerization, end-group functionalization, and bioconjugation. *C.A. Figg, C.P. Easterling, R.N. Carmean, G. Scheutz, T. Kubo, M.B. Sims, B.S. Sumerlin*

9:00 PMSE 294. Synthetic paper – a microstructured coating developed for medical diagnostics. *T. Haraldsson*

9:30 PMSE 295. Photopolymerization of crosslinked films containing azobenzene chromophores. *D.P. Nair, D. Gautam, K. Childress, G. Campbell, J.W. Stansbury*

10:00 PMSE 296. Thiol-ene coatings and films for nanofabrication. *M.D. Dickey*

10:30 Intermission.

10:45 PMSE 297. Accessing functional materials via thiol-ene photopolymerization. *D.L. Patton*

11:15 PMSE 298. Coarse-grained molecular simulation studies linking oligonucleic acid backbone design to its duplex melting temperature. *A. Jayaraman*

11:45 PMSE 299. Adaptable hydrogels with photoswitchable properties to study mechnobiology. *K.S. Anseth*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

PMSE Future Faculty Symposium

Polymers for Membrane & Electrolytic Applications

Financially supported by Solvay Specialty Polymers; Macromolecules; JACS; Chemistry of Materials; ACS Macro Letters; ACS Central Science; ExxonMobil
L. M. Campos, M. Grunlan, J. L. Jessop, *Organizers, Presiding*
8:55 Introductory Remarks.

9:00 PMSE 300. Musings on an academic career - transitioning from small molecule organic chemistry to molecular engineering. *S.J. Rowan*

9:30 PMSE 301. Functional polymeric materials for water purification/energy generation applications. *J. Kamcev*

10:00 PMSE 302. Designed polymers for anion exchange membranes and mercury(II) removal from water. *Y. Kim, T.M. Swager*

10:30 Intermission.

10:45 PMSE 303. Materials genome approach enables designer polyelectrolyte complexes. *J. Ting*

11:15 PMSE 304. Conducting polymer-modified covalent organic framework with overlapping potentials in organic electrolytes. *E. Vitaku, W.R. Dichtel*

11:45 PMSE 305. Electrochemical control of reversible-deactivation radical polymerizations. *M. Fantin*

12:15 Concluding Remarks.

SECTION F

Westin Boston Waterfront
Grand Ballroom D

Advances in Human Space Exploration: Second ACS NASA Symposium

Cosponsored by PRES

C. J. Brumlik, G. L. Rodriguez, *Organizers*
Q. Lin, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 PMSE 306. Needs and opportunities in the development of advanced materials and manufacturing methods for future long-duration human space exploration. *M.A. Meador*

9:05 PMSE 307. Optimization of organic solar cells through experimental design and machine learning. *B. Cao, A. Olynyk, L. Adutwum, E.J. Luber, A. Mar, J.M. Buriak*

9:35 PMSE 308. Wearable electrochemical sensors. *J. Wang*

10:05 PMSE 309. Opportunities for and advantages of atomically precise structures. *P.S. Weiss*

10:35 PMSE 310. Harnessing the chemistry and physics of silicon nanomaterials for micro and nano-scale sensing devices. *M.J. Sailor*

11:05 PMSE 311. Polymers and manufacturing: A space flow chemistry perspective. *R.C. Advincula*

SECTION G

Westin Boston Waterfront
Hale

Surface, Interface & Coating Materials

Emerging Surface & Coating Materials

Cosponsored by COLL and POLY
Financially supported by PPG Industries, Inc.
Z. Cao, X. Yong, *Organizers*
S. Jiang, *Organizer, Presiding*

8:00 PMSE 312. Smart and multifunctional polymeric materials. *J. Baghdachi*

8:25 PMSE 313. Engineering of functional coatings from polymer particles: From ordered microspheres to "gecko leg" morphology. *O.D. Velev*

8:50 PMSE 314. Hybrid perovskite nanoparticles in layer-by-layer thin films: Towards photoactive flexible coatings. *A. Krieger, F. Gröhn, S.A. Sukhishvili*

9:05 PMSE 315. Anionic polymerization of brush polymers for particles and surfaces. *S.P. Ward, D.H. Adamson*

9:20 PMSE 316. Surface-grafted polymer brushes for dynamic surfaces. *C. Pester, K.M. Mattson, M. Li, D. Lunn, G. Su, M.F. Brady*

9:35 PMSE 317. Bio-hybrid nanomaterials used for next-generation coatings. *C. Martin, A. Kumar, L. Deravi*

9:50 Intermission.

10:00 PMSE 318. Janus particles as potential coating materials: Interface mediated assembly and evaporation driven deposition. *K. Miller, A. Tsyrenova, E. Olson, Y. Li, F. Liu, S. Jiang*

10:25 PMSE 319. Adaptive microgels as versatile coating materials. *W. Richtering*

10:50 PMSE 320. Surface topology and modulus effects on ice adhesion on novel polyorganosiloxane-based coatings. *E. Smith, V. Baranauskas, S.M. Martin*

11:05 PMSE 321. Translation of mussel adhesion into synthetic materials: Adhesives and surface primers. *S. Seo*

11:20 PMSE 322. Cellulose nanocrystal (CNC) enhanced wood coatings. *C. Clarkson, J.P. Youngblood*

11:35 PMSE 323. Shape memory polymers with alternating multilayer structure. *Y. Zheng, X. Ji, J. Shen*

SECTION H

Westin Boston Waterfront
Grand Ballroom B

Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by IKA Works, Inc.; Chemglass Life Sciences; Pure Process Technology; Kurt J. Lesker Company; LC Technology Solutions; Strem Chemicals, Inc.; Agilent Technologies

C. Di, A. Dudnik, L. Fang, J. Mei, *Organizers*
D. J. Lipomi, *Presiding*

8:00 PMSE 324. Design and synthesis of polymeric semiconductors and their field-effect transistors. *Y. Liu*

8:30 PMSE 325. Mixed conduction and doping processes in organic semiconductors. *C. Nielsen*

9:00 PMSE 326. Dual-catalytic systems to achieve controlled polymerizations using direct arylation for the synthesis of semiconducting polymers. *C.K. Luscombe*

9:30 PMSE 327. Synthesis and study of magnetic properties of ladder-type oligoanilines. *X. Ji, Y. Zou, H. Xie, L. Fang*

9:45 Intermission.

10:00 PMSE 328. Semiconducting polymer for electronic and bioelectronic applications. *I. McCulloch*

10:30 PMSE 329. Biazulene diimides for small molecular and polymeric semiconductors. *H. Xin, X. Gao*

11:00 PMSE 330. Catalyst-transfer polycondensation for the controlled synthesis of conjugated polymers. *K.J. Noonan*

11:30 PMSE 331. Utilizing fluorinated thiophene units to improve photovoltaic device performance. *J.J. Rech, L. Yan, W. You*

11:45 PMSE 332. Topological design of hole transporting polymers for highly anisotropic alignment in solution processed thin films. *N. Kang, E.E. Leonhardt, S. Cho, S.V. Verkhoturov, M.J. Eller, F. Yang, Y. Borguet, Y. Lin, T. Yuan, A. Janhke, M. Vazquez, L. Fang, E.A. Schweikert, G. Sun, K.L. Wooley, C. Liu, A.N. Sokolov, T. McIntire, C. Reinhardt, W. Woodward, L. Spencer, P. Prefonas*

SECTION I

Westin Boston Waterfront
Burroughs

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

Y. Lin, S. Richards, *Presiding*

8:30 PMSE 333. Precision glycopolymer-coated gold nanoparticles for the detection of toxins and viruses. *S. Richards, M.I. Gibson*

8:50 PMSE 334. Facile and scalable strategy for preparing lipid-polymer conjugates. *A. Watanabe, J. Niu, D. Lunn, J. Lawrence, A. Knight, C.J. Hawker*

9:10 PMSE 335. New synthetic methodology to construct well-defined multifunctional polyamide dendrimers via controlled Michael addition. *D.L. Bertuzzi, M. Ramos, C. Ornelas*

9:30 PMSE 336. *In vitro* and *in vivo* transfection activity of polymer conjugates of oncolytic adenovirus Enadenotucirev. *N. Francini, G. Mantovani, C. Alexander, L.W. Seymour, S.G. Spain*

9:50 Intermission.

10:10 PMSE 337. Cellular membrane-camouflaged acid-responsive sugar-based nanocarriers for cancer therapeutics. *Y. Lin, L. Su, J. Smolen, R.A. Letteri, R. Li, Y. Song, K.L. Wooley*

10:30 PMSE 338. Natural polymer-based electrospun fibers for use in biomedical applications. *S.K. Hamilton, K. Penton, A. Wilson, A. Camarillo, T. Brown, V.F. Baker*

10:50 PMSE 339. Bioinspired polypeptide-hyaluronic acid conjugates based off a modular polypeptide scaffold. *W. Wang, A. Brown, L. Griffith, P.T. Hammond*

PMSE

11:10 PMSE 340. Sulfonate groups and saccharides as essential structural elements in heparin-mimicking polymers used as surface modifiers: Optimization of relative contents for anti-thrombogenic properties. *X. Chen, X. Liu, H. Chen*

11:30 PMSE 341. Influencing the mechanical properties of polymers through the control of backbone stereochemistry. *A.P. Dove, H. Prydderch, J. Worch, C. Stubbs*

TOSOH Lectures

Nanostructured Polymers

Sponsored by POLY, Cosponsored by PMSE

TUESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Mesoporosity & Macroporosity

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)

N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, *Organizers*

R. M. Ho, F. A. Tezcan, *Presiding*

1:30 PMSE 342. Nanoporous materials from chemically fixed block polymers in the disordered state. *M.A. Hillmyer*

2:00 PMSE 343. Nanonetwork materials from templated syntheses using block copolymer templates for photonic applications. *R.M. Ho*

2:30 PMSE 344. Multi-functional porous calix[n]arene-based materials. *A. Trabolsi, D. Shetty*

2:50 PMSE 345. Teaching a new dog old tricks: Phase inversion in polyelectrolytes. *D. Delgado, K. Sadman, Q. Wang, K.R. Shull*

3:10 Intermission.

3:25 PMSE 346. Asymmetric PS-b-P4Vp membranes: Chemical modifications and a new application as chemiresistive sensor. *K. Peinemann, S. Nunes, R. Shevate, M. Haque*

3:55 PMSE 347. Dynamic, self-healing protein crystals with integrated polymer networks. *F.A. Tezcan, L. Zhang, J. Bailey*

4:25 PMSE 348. Membranes with chemical structure-based selectivity by random copolymer micelle assembly. *A. Asatekin, I. Sadeghi*

4:45 PMSE 349. Fingerprint of honeycomb porous films for anti-counterfeiting. *B. Wu, L. Wan*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

Advances in Bioconjugate Materials for Biomedical Applications

Financially supported by Bioconjugate Chemistry (ACS Journal)

C. England, E. B. Lavik, D. McDaniel, B. D. Smith, J. van Hest, G. Zheng, *Organizers*

V. M. Rotello, *Organizer, Presiding*

1:30 PMSE 350. Engineering nanoparticles to stop bleeding: Challenges and opportunities. *E.B. Lavik*

1:50 PMSE 351. Biomaterials, novel drug and cell delivery systems. *R. Langer*

2:15 PMSE 352. Penetration and eradication of multidrug-resistant biofilms using engineered nanomaterials. *V.M. Rotello*

2:35 PMSE 353. Cucurbit[n]uril molecular containers: From basic science to drug delivery. *L.D. Isaacs*

3:00 PMSE 354. Synthetic mimic of biotin/avidin self-assembly for fluorescence imaging and diagnostics. *B.D. Smith*

3:20 Intermission.

3:30 PMSE 355. Targeting the powerhouse of the cell with peptide-drug conjugates. *S.O. Kelley*

3:55 PMSE 356. Mimicking how nature harvests light to create smart nanophotonics. *K. Harmatys, D. Charron, J. Chen, G. Zheng*

4:15 PMSE 357. Biomaterials with life-like properties: The exploration of dynamic reciprocity. *P.Y. Dankers*

4:40 PMSE 358. Engineering protein-based nanoparticle conjugates for nanomedicine applications. *J. van Hest, J. Pille, M. Abdelghani, S. Timmermans, D. Vervoort, C. Pretto*

5:00 PMSE 359. Janus drug-drug conjugates for cancer nanotheranostics. *Z. Dai, X. Liang, C. Gao*

SECTION C

Westin Boston Waterfront
Stone

Multifunctional Nanocomposites & Surface Damage Phenomena in Polymers

In Honor of Prof. Hung-Jue Sue's 60th Birthday

Financially supported by Southwest Petroleum University; Formosa Plastics Co., USA; Akron Ascent Innovations, LLC; ExxonMobil; Kaneka Americas Holding, Inc.

M. Kotaki, Y. Li, D. Liu, L. Sun, K. White, *Organizers*

D. Sun, *Organizer, Presiding*

1:30 PMSE 360. Direct visualization of Interphase region between fillers and matrix in rubber composites observed by electron tomography with mechanical mapping. *H. Jinnai*

2:00 PMSE 361. Effect of fiber content and orientation on scratch behavior of short glass fiber reinforced PBT composites. *Q. Cheng, H. Jiang*

2:30 PMSE 362. Dispersion of 2D layered nanomaterials in oils and polymers for high-performance engineering materials with superior lubrication and anti-wear properties. *D. Sun*

3:00 PMSE 363. Effect of temperature on tribology of PBI/PEEK blend. *J. Wong, A. Jean-Fulcrand, M. Masen*

3:30 Intermission.

3:45 PMSE 364. Scratch behavior and mar-induced damage visibility on polymeric coating surfaces. *J. Weon, S. Song*

4:15 PMSE 365. Fundamental understanding of scratch-induced surface damages in polymeric materials, composites, and coatings. *M.M. Hossain, H. Sue*

4:45 PMSE 366. Tribological performance comparison of protic and non-protic phosphate ionic liquids. *J. Leng, H. Yong, D. Sun*

SECTION D

Westin Boston Waterfront
Webster

Roy W. Tess Award: Symposium in honor of Christopher Bowman

Cosponsored by PROOF

A. Guymon, *Organizer*

A. B. Scranton, *Organizer, Presiding*

1:30 PMSE 367. Photo-sensitive multi-responsive structurally dynamic polymers. *S.J. Rowan*

2:00 PMSE 368. Photoinduced plasticity in liquid crystalline networks: A route to programmable shape changes. *M.K. McBride, A. Martinez, M. Hendrikx, D. Liu, D. Broer, C. Bowman*

2:30 PMSE 369. Functional nanoporous hydrogels through photopolymerization in lyotropic liquid crystals. *A. Guymon*

3:00 PMSE 370. Utilizing light-mediated chemistries for the modulation of biomaterial properties. *A.M. Kloxin*

3:30 Intermission.

3:45 PMSE 371. High performance photopolymers with physical/covalent networks. *M. Barros, M. Eulau, P.K. Shah, J.W. Stansbury*

4:15 PMSE 372. Advances in theory and applications of stimuli-responsive and recognitive gels. *N. Peppas, M. Miller, H. Oldenkamp, A. Shodeine, A. Murphy*

4:45 PMSE 373. Novel photopolymerized films and coatings: Step growth photopolymerization approaches toward the next generation of tough materials. *C. Bowman*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

PMSE Future Faculty Symposium

Novel Syntheses of Polymers & Catalysts

Financially supported by Solvay Specialty Polymers; Macromolecules; JACS; Chemistry of Materials; ACS Macro Letters; ACS Central Science; ExxonMobil

L. M. Campos, M. Grunlan, J. L. Jessop, *Organizers, Presiding*

1:25 Introductory Remarks.

1:30 PMSE 374. Challenges and opportunities: How to succeed in research and enjoy a productive academic career. *K.L. Wooley*

2:00 PMSE 375. Synthesis of functional macromolecular targets. *M. Golder, J.A. Johnson*

2:30 PMSE 376. Methods for the systematic synthesis of heteroatom-substituted conjugated materials. *E. Darzi*

3:00 Intermission.

3:15 PMSE 377. Design and synthesis of new catalytic systems for the alternating ring-opening copolymerization of epoxides and cyclic anhydrides. *B.A. Abel, C. Lidston, G.W. Coates*

3:45 PMSE 378. Simultaneous in-film polymer synthesis and self-assembly for hierarchical nanopatterns. *Z. Qiang*

4:15 PMSE 379. New frontiers for carbenes and metal-organic polyhedra in polymer chemistry and materials science. *A.V. Zhukhovitskiy, I.J. Kobylanski, J.A. Johnson, D. Toste*

4:45 PMSE 380. Sequence-controlled polyurethane networks. *E.A. Hoff, C.A. Alabi*

5:15 Concluding Remarks.

SECTION F

Westin Boston Waterfront
Grand Ballroom D

Advances in Human Space Exploration: Second ACS NASA Symposium

Cosponsored by PRES

Q. Lin, G. L. Rodriguez, *Organizers*

C. J. Brumlik, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 Introductory Remarks.

1:10 PMSE 381. Robust and thick polymer brushes grafted from gold surfaces using bidentate thiol-based initiators. *H. Lee, C. Park, T. Lee*

1:40 PMSE 382. Advanced nanomaterials for aerospace and related applications. *Y. Xia*

2:10 Intermission.

2:25 Introductory Remarks by *C. Brumlik*.

3:25 PMSE 383. NASA JPL overview and the quest for more capability in smaller systems. *D. Bearden*

SECTION G

Westin Boston Waterfront

Hale

Surface, Interface & Coating Materials

Smart & Responsive Coatings

Cosponsored by COLL and POLY

Financially supported by PPG Industries, Inc.

Z. Cao, S. Jiang, *Organizers*

X. Yong, *Organizer, Presiding*

1:30 PMSE 384. Zwitterionic poly(carboxybetaine) surface coatings, hydrogels and nanoparticles. *S. Jiang*

1:55 PMSE 385. Polymer coatings containing embedded dynamic chemical potential gradients for directing rapid chemical transport. *P.V. Braun*

2:20 PMSE 386. Reversible switching from superhydrophobic to superhydrophilic and erasable patterning of polymer surfaces using plasma oxidation and thermal annealing. *Z. Rashid, E. Yilgor, A. Kiraz, I. Yilgor*

2:35 PMSE 387. Nanostructured and stimuli-responsive smart coatings: Superhydrophobic properties. *R.C. Advincula*

2:50 PMSE 388. Self-healable superomniphobic surfaces. *M. Ezazi, A. Maharjan, G. Kwon*

3:05 PMSE 389. Self-healing, water- and oil-repellent coatings for practical applications. *J.V. Buddingh, H. Hu, G. Liu*

3:20 Intermission.

3:30 PMSE 390. Photoresponsive polymers and films. *H. Yu, L. Wang, X. Xia*

3:55 PMSE 391. Stimuli-responsive biointerfaces. *S. Minko*

4:20 PMSE 392. Metamorphic superomniphobic surfaces. *W. Wang, J. Salazar, H. Vahabi, A. Joshi-Imre, W. Voit, A. Kota*

4:35 PMSE 393. Extraordinary tunability of surface wettability, dewetting and Tg-confinement effect behavior of thin films and coatings of low molecular weight polymer by chain-end functionalization and interfacial hydrogen bonding. *J.M. Torkelson, L. Zhang, R. Elupula, S.M. Grayson*

4:50 PMSE 394. Biomimetic quorum-sensing inhibiting coatings for the prevention of marine biofouling. *C.M. Hoffman, J. Johnson, F.C. Sage, M. Hart, S.A. Langevin, D. Van Buren, A.W. Freeman*

5:05 PMSE 395. Design of functional, biomimetic polymeric interfaces: Using photopolymerization techniques to simultaneously control surface chemistry and topography. *C. Szczepanski, T. Darmanin, F. Guittard, G. Godeau, J.M. Torkelson*

SECTION H

Westin Boston Waterfront
Grand Ballroom B

Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by IKA Works, Inc.; Chemglass Life Sciences; Pure Process Technology; Kurt J. Lesker Company; LC Technology Solutions; Strem Chemicals, Inc.; Agilent Technologies

C. Di, A. Dudnik, L. Fang, J. Mei, *Organizers*

X. Sun, *Presiding*

1:30 PMSE 396. Hybrid soft matter/hard matter materials design for flexible electronics and solar cells. *T.J. Marks*

2:00 PMSE 397. Imide-functionalized n-type polymers for high-performance organic thin-film transistors and all-polymer solar cells. *X. Guo*

2:30 PMSE 398. Designing conjugated polymers for printed electronic applications. *B. Voit, T. Erdmann, E. Karpov, A. Kiry*

3:00 Intermission.

3:15 PMSE 399. Conjugated polymer semiconductors designed for field effect transistor based sensors. *Y. Li*

3:45 PMSE 400. Advances in polymer semiconductors and energy storage devices. *D.S. Seferos*

4:15 PMSE 401. High relative dielectric constants poly(3-alkylthiophene)s from side chain modification with sulfoxide and sulfonyl groups. *C. Wang, Z. Zhang, L. Zhu, G. Sauve*

4:45 PMSE 402. Synthesis of ultrathin, homogeneous copolymer dielectrics to control threshold voltage of organic field-effect transistors. *K. Pak, H. Seong, J. Choi, W. Hwang, S. Im*

5:00 PMSE 403. Electrochromic polymers processed from environmentally benign solvents. *G.S. Collier, I. Pelse, A. Osterholm, J.R. Reynolds*

SECTION I

Westin Boston Waterfront

Grand Ballroom A

Advances in Human Space Exploration: Second ACS NASA Symposium

Cosponsored by PRES

C. J. Brumlik, Q. Lin, *Organizers*

G. L. Rodriguez, *Organizer, Presiding*

4:00 Introductory Remarks by *T. Connelly*, ACS Executive Director & CEO.

4:10 Introductory Remarks by *G. Rodriguez*.

4:15 PMSE 404. Exploring biomaterials, delivery systems, and tissue engineering. *R. Langer*

4:50 PMSE 405. Sustainable production of fuels and chemicals. *E.A. Carter*

5:25 PMSE 406. Space: The future of transportation. *G.L. Rodriguez*

TOSOH Lectures

Nanostructured Polymers

Sponsored by POLY, Cosponsored by PMSE

TUESDAY EVENING

SECTION A

Boston Convention & Exhibition Center

Exhibit Hall B2/C

Joint PMSE-POLY Poster Session

Designing Polymers for Function in Electrochemical Energy Storage Devices

Cosponsored by POLY

E. Harth, *Organizer*

6:00 – 8:00

PMSE 407. Hydroxyl groups containing sulfonated copolyimides toward improved peroxide radical resistance and hydrolytic stability for application in microbial fuel cells. *A. Ganesh Kumar, S. Banerjee*

PMSE 408. Energy saving electrochromic polymer displays through charge balancing. *Y. Kim, M. Han, J. Kim, W. Lee, E. Kim*

SECTION A

Boston Convention & Exhibition Center

Exhibit Hall B2/C

Joint PMSE-POLY Poster Session

General Posters-New Concepts in Polymeric Materials

Cosponsored by POLY

E. Harth, *Organizer*

6:00 – 8:00

PMSE 409. Dynamic covalent assembly of sequence-specific, π -conjugated oligomers. *A. Alqubati, T.F. Scott*

PMSE 410. Precise polyethylene telechelics from chain doubling of fatty acids. *M. Häussler, L. Yan, K.I. Winey, S. Mecking*

PMSE 411. Preparation of surface-functionalized all-inorganic CsPbBr₃ perovskite quantum dots showing enhanced environmental stability by using catechol-grated poly(vinyl pyrrolidone). *J. Park, B. Kwon, W. Jeong, G. Jeong, D. Kim, D. Park, J. Lee, I. In*

PMSE 412. Blends based on biodegradable poly(butylene adipate-co-terephthalate) for packaging: Degradation and transport properties. *A. Sangroniz, L. Sangroniz, A. Santamaria, M. Iriarte, A. Etxeberria*

PMSE 413. Combination therapy using polymeric nanoparticles with colistin antibiotic for the treatment of bacterial and biofilm infections. *A. Gupta, J.M. Makabenta, C. Li, R.F. Landis, F. Schlüter, V.M. Rotello*

PMSE 414. Characterizing ordered phases of protein-copolyelectrolyte complexes. *A.E. Marras, M.V. Tirrell*

PMSE 415. Stable radical polymers for charge transport studies. *A. Cintora, Y. Zhang, A. Park, G. Fuchs, C.K. Ober*

PMSE 416. Ultrasonic molding of polypropylene: Influence of key processing variables on final part dimensions and microstructure. *O. Dubin, V. Zivkovich, A.M. Rhoades*

PMSE 417. Dithienylethene-based carbonylates: Potential application to photoswitchable ring-opening polymerization. *A.D. Sponza Mata, D. Liu, M. Chiu*

PMSE 418. Preparation and characterization of electrospun natural polymer-antibiotic bioconjugates towards the release of a therapeutic. *A. Camarillo, S.K. Hamilton, K. Penton, V.F. Baker*

PMSE 419. Investigating the relationship between material properties and the chemical structure of synthetic elastomers. *A.P. Dove, H. Prydderch, J. Worch, C. Stubbs*

PMSE 420. Tunable tensile properties through stereo-control of polymer backbones. *A.P. Dove, H. Prydderch, J. Worch, C. Stubbs*

PMSE 421. Strain-activated GEMS modulate cell signaling and response. *A. Martin, J. Wang, X. Han, M.W. Grinstaff*

PMSE 422. Durable high polymer content meta/para PBI polybenzimidazole membranes for extended life-time electrochemical devices. *A.T. Pingitore, G. Qian, F. Huang, B.C. Benicewicz*

PMSE 423. Effect of torsional angle on the optoelectronic properties of isonidigo-based polymers. *A. Ganguly, T. Kelly*

PMSE 424. PEGylated-hydrogel matrix for sustained release of proteins. *A.T. Joenathan, W.A. Blessing, A.N. Patwa, C. Bordeianu, A. Nazarian, E.K. Rodriguez, M.W. Grinstaff*

PMSE 425. Protein-polymer nanocarrier based on nitrilotriacetic acid-end-functionalized poly(ϵ -caprolactone). *A. Hwang, C. Lee, H. Paik*

PMSE 426. Insight towards atomistic interactions between PEG and BSA – an atomistic molecular dynamics study. *A. Munasinghe, A. Mathavan, A. Mathavan, P. Lin, C.M. Colina*

PMSE 427. Synthesis of sulfonated polyimides with phosphaphenanthrene skeleton: Effect on proton exchange membrane properties. *A. Mandal, S. Banerjee*

PMSE 428. Anion exchange ionomers with long flexible side chains. *A. Herrera, W.R. Khan, A. Venkatachalam, C.J. Cornelius*

PMSE 429. Poly(lactic acid) bio-based composites by high torque melt mixing. *A.L. Tucker, V. Sorsor, E.A. Mintz*

PMSE 430. Photocontrolled ring-opening reactions of poly(2-alkenyl azlactone)s with photocaged amines for hydrogel formation and modification. *A. Minea, M.E. Buck*

PMSE 431. Polymer scaffold based centimeter long nanowires for improved GHz frequency communication devices. *A. Aydin, L. Sun, X. Gong, R.G. Gordon*

PMSE 432. DLP 3D printing of shape memory polymers. *B. Peng, E.J. Amis, K.A. Cavicchi*

PMSE 433. Studying the effect of side chain length on mechanical properties, thermal stability and morphology for branched poly phenyl sulfone based aromatic polymer. *B. Motealleh, J. Grosseohme, C.J. Cornelius*

PMSE 434. Synthesis and evaluation of novel triazine based aromatic boronic acids functionalized on cellulose for flame retardancy. *B. Cromwell, M. Levine*

PMSE 435. Pickering emulsion stabilized by clay particle and surfactants. *B. Zheng, B. Zheng, D. McClements, S.R. Bhatia*

PMSE 436. Facile design and fabrication of highly transparent and hydrophobic coatings on glass with anti-scratch property via surface dewetting. *B. Wu, F. Lei, D. Sun*

PMSE 437. Simple microwave-assisted synthesis of fluorescent and water-soluble carbon quantum dots enabling targeted drug delivery to cancer cells. *B. Kwon, W. Jeong, G. Jeong, J. Park, I. In*

PMSE 438. Flame retardant polybutylene terephthalate sheets from self-assembled nanocoatings. *B.L. Williams, J. Liu, D. Zhang, L. Sun*

PMSE 439. One-step multisite protein glycosylation through global amino acid substitution and copper click chemistry. *B. Seifried, W. Qi, Y. Yang, G. Chen, B.D. Olsen*

PMSE 440. Silicone-based materials for controlled release drug delivery. *C. Bunton, Z.S. Bassampour, J.V. Rose, D.Y. Son*

PMSE 441. Phase behavior of the elastin-like polypeptide in binary aqueous solutions. *C.E. Mills, E. Ding, B.D. Olsen*

PMSE 442. Study of the anti-cancer activity of goniothalamin encapsulated in acetalated dextran-based nanoparticles. *C.B. Braga, I. de Toledo, T.A. Grigolo, J.C. Milan, M.A. Meirelles, C. Ornelas, R.A. Pilli*

PMSE 443. Large deformation and fracture behavior of slide-ring gels with different cyclodextrin coverages. *C. Liu, K. Hayashi, L. Jiang, K. Mayumi, H. Yokoyama, K. Ito*

PMSE 444. Dynamic covalent and pH-responsive supramolecular polymers from pyridinium-hydrazone conjugates. *K. Kim, H. Cho, Y. Lee, C. Song*

PMSE 445. Inhibition of the Zika virus by lamivudine-containing organotin polymers. *C.E. Carragher, F. Mosca, M. Roner, L. Miller, P. Slawek, J.E. Haky*

PMSE 446. Synthesis and characterization of metal-containing polymers employing interfacial polycondensation and commercially available reactants with emphasis on 2-ketoglutaric acid-containing polymers. *C.E. Carragher, M. Roner, D. Patel, J. Frank, Z. Rabinowitz, P. Slawek, F. Mosca, E. Mittelmark, E. Quiles, P. Thaker, S. Jafri, J. Einkauf, F. Russell*

PMSE 447. One-pot synthesis of DSPE-PEG-ICG J-aggregates composite nanoparticles for high efficiency photo-thermal therapy and photoacoustic imaging. *C. Shao*

PMSE 448. Nanosized titanium dioxide embedded in nanocellulose scaffold as photocatalyst for dye degradation and bacterial inactivation. *C. Zhan, H. He, S.K. Sharma, R. Wang, P.R. Sharma, B.S. Hsiao*

PMSE 449. Breath figure method for construction of high-aspect-ratio pores using diacetylene-labeled polystyrene. *C. Wang, C. Chang, M. Li*

PMSE 450. 2D graphene derivative-reinforced polymer nanocomposites for light-weight applications. *C. Zhang, Z. Cai*

PMSE 451. Conductive graphene hydrogels from emulsion templating. *C.D. Liyanage, D. Varghese, D. Adamson*

PMSE 452. Mechanism of high extensibility and toughness in entangled associative protein hydrogels. *C. Edwards, D.J. Mai, S. Tang, B.D. Olsen*

PMSE 453. Primary amine-based cationic copolymers for alginate capsules. *D.E. Hastings, S. Ros, N.A. Burke, H.D. Stover*

PMSE 454. Controlled ring-opening polymerization of lactide by alkali enolates of β -keto carbonyl compounds. *D. Liu, M. Chiu*

PMSE 455. Development of sequence ordered/functional polymers with thiol-X and aza-Michael reactions. *D. Love, B. Fairbanks, D. Domaille, D. Klug, C. Bowman*

PMSE 456. Patch formation on diblock copolymer micelles for nanoscale building blocks. *D. Kang, K. Lee, S. Jang, H. Kang, B. Sohn*

PMSE 457. Sulfur polymers for heavy metal capture. *D.J. Parker, S. Petcher, J. Lee, A.I. Cooper, T. Hasell*

PMSE 458. Synthesis of high molecular weight polybenzimidazole using a highly pure monomer under mild conditions. *E. Kim, H. Kim, J. Lee*

PMSE 459. Polymerization induced order-order and disorder-order transitions in diblock copolymer-monomer blends. *E. Zofchak, R. Hickey, J. LaNasa, W. Mei*

PMSE 460. Mercaptan degradation with amine catalysts in curable systems. *F. Wu, S. Campbell, A.G. Condie, D. Schwartzmiller, S.J. Moravsek, B. Havens, V. Pagnotti*

PMSE 461. Effect of base layer morphology in liquid-immobilized surfaces on repellency to viscous liquids. *F. Ohnuki, R. Togasawa, S. Shiratori*

PMSE 462. ROS-responsive polycarbonates with pendent chalcogen for photodynamic therapy. *L. Yu, F. Du, Z. Li*

PMSE 463. Simple microwave-assisted synthesis of functional CQDs with controlled surface functionalities from polyamidation monomer sets. *G. Jeong, J. Park, B. Kwon, W. Jeong, I. In*

PMSE 464. Syntheses and characterization of Ti-Nb alloy based nanotubular oxide photocatalyst. *T. Soares, L. Holanda, R. Galvão, S. Teixeira, S. Khan, G. Machado*

PMSE 465. Effect of chain architecture on the aging rate in thin polystyrene films. *G. Brown, E. Lewis, B.D. Vogt*

- PMSE 466.** Synthesis, processing and characterization of helical polypeptide and liquid crystalline rod-coil mixed brushes. *H. Tran, Y. Zhang, S. Hur, C.K. Ober*
- PMSE 467.** Grafting of miktoarm branched polymers into SWCNTs by ROMPing in and out. *H. Alamri, T.M. Swager*
- PMSE 468.** Highly thermal conductive and electrically insulating polymer composites based on polydopamine-coated copper nanowire. *H. Yuan*
- PMSE 469.** One-step rolling circle amplification hydrogel with stable catalytic ability. *H. Yishun*
- PMSE 470.** Fluorinated imide-based polymers: Versatile high-performance unipolar electron transport organic semiconductors for organic thin-film transistors and all-polymer solar cells. *H. Sun, X. Guo*
- PMSE 471.** Stimuli-responsive functional materials. *I. Martin, D. Ndaya, R. Kasi*
- PMSE 472.** Fabrication of natural silk fibroin nanofiber and the improvement of mechanical properties of silk film using it. *J. Lee, I. Um*
- PMSE 473.** Bridge between muscle and bone: Investigation of tissue repair and regrowth. *I. Arthur, J.A. Paten, J.W. Rubert, L. Deravi*
- PMSE 474.** Enhancement of mechanical property with self-assembled particle brush materials. *J. Lee, Z. Wang, T. Deng, R. Davis, K. Matyjaszewski, M.R. Bockstaller*
- PMSE 475.** Universal method for highly crystalline and extremely continuous colloid film for high performance organic semiconductor devices. *J. Cho, D. Chung*
- PMSE 476.** Effects on the interface and bulk of liquid crystal phases encapsulated in polymer fibers. *M.J. Bertocchi, D.C. Ratchford, R. Casalini, R. Ananth, J.H. Wynne, J. Lundin*
- PMSE 477.** Paclitaxel-loaded films for local post-resection treatment of soft tissue sarcoma. *J. Miller, D. Mahvi, C. Raut, Y.L. Colson, M.W. Grinstaff*
- PMSE 478.** Precision polymer networks with tailorable gel moduli via controlled/living polymerizations. *J.A. Weaver, S.L. Morelly, N. Alvarez, A.J. Magenau*
- PMSE 479.** Multilayer elastomer laminates for chemical protection. *J. Yi, J. Zhang, C. Hansen, C. Lepant, W. Zukas, J. Mead*
- PMSE 480.** Water-soluble photoinitiators for high efficiency two-photon polymerization. *J. Song, C. Michas, N. Varongchayakul, R.K. Jayne, R. Xiao, C. Chen, A. White, M.W. Grinstaff*
- PMSE 481.** Molecule simulation of pervaporation membrane material used to separate butanol and ethanol from fermentation broths. *J. Li*
- PMSE 482.** Fabrication and characterization of SiO₂/PDMS mixed matrix membranes for enhanced propylene/nitrogen separation. *X. He, M. FANG, T. Wang, J. Li*
- PMSE 483.** Multifunctional theranostic dendritic platform for NIR imaging and concurrent anticancer phototherapy. *J. Cao*
- PMSE 484.** Highly elastic hydrogen-bonded polymer complex fibers. *J. Li, S. Yang, C. Li*
- PMSE 485.** Cycloalkyl modified ionic liquids for electrochromic polymer windows. *J. Kim, C. Park, Y. Kim, W. Lee, M. Han, E. Kim*
- PMSE 486.** Permeation properties of EVOH with high ethylene content for use in migration modeling of food contact materials. *J.L. Koontz, Y.S. Song, S. Rangaswamy, A. Ramasubbu*
- PMSE 487.** Cellular behaviors on hydrophobic PDMS (poly dimethylsiloxane) nanobrush and multilayer fabrication of unobtrusive PDMS nanobrush for tunable cell adhesion. *J. Jung, S. Chae, J. Bae, J. Park, H. Ko*
- PMSE 488.** Understanding the influence of zwitterions on ion conduction in polymer materials. *J. Rinehart, W. Mei, R.H. Colby, R. Hickey*
- PMSE 489.** Highly carboxylate-functionalized polymers of intrinsic microporosity for superior CO₂ selective gas separation membrane. *J. Jeon, D. Kim, Y. Yoo, Y. Kim, J. Lee, B.G. Kim*
- PMSE 490.** Hierarchical carbon electrodes based on a polymers of intrinsic microporosity (PIM-1) matrix through non-solvent induced phase separation for supercapacitor. *J. Jeon, J. Han, S. Kim, T. Kim, B.G. Kim*
- PMSE 491.** Effect of protein oligomerization on self-assembly in protein-polymer conjugates. *J.M. Paloni, B.D. Olsen*
- PMSE 492.** Electrospun core/shell polycaprolatone nanofibrous membranes for postoperative tendon anti-adhesion and healing. *S. Chen, J. Chen*
- PMSE 493.** Influence of glucosamine on properties of gelatin/hyaluronic acid cryogels and chondrogenic phenotype for cartilage tissue engineering. *C. Kuo, J. Chen*
- PMSE 494.** Correlation of IR spectra with thin-film structure and interactions at polymer/water interfaces. *K. Hinrichs, A. Furchner*
- PMSE 495.** Nanoparticle sizing in blood plasma for protein corona measurements. *A. Lopez Ruiz, M. Bannon, Z. Wallizadeh, K. Gans, K. Mcennis*
- PMSE 496.** Preparing hydrogen-bonded photo-reversible materials. *K. Edwards*
- PMSE 497.** Conformation and chiral separation behavior of linear and cyclic polysaccharide derivatives. *K. Terao, A. Ryoki, Y. Kimura, S. Kitamura*
- PMSE 498.** Tracking the morphology development in activated carbon produced from graded polyacrylonitrile (PAN)/carbon nanotube (CNT) films. *K. Benson, M. Minus, H. Li*
- PMSE 499.** Application of photobase generators liberating radicals as well as bases to hardcoating materials. *K. Terada, M. Furutani, K. Arimitsu*
- PMSE 500.** Anionic UV curing systems using photochemical generation of organic strong bases. *K. Arimitsu, T. Ida, M. Furutani*
- PMSE 501.** Role of chain-end association life time in segmental and chain dynamics of associating telechelic polymers. *K. Xing, M. Tress, P. Cao, F. Fan, S. Cheng, T. Saito, A.P. Sokolov*
- PMSE 502.** Amplifying fluorescence of polydiacetylene liposomes using surface plasmon resonance in gold nanoparticles. *K. Park, S. Seo, J. Lee*
- PMSE 503.** Preparation of poly (phenylene sulfide)/nylon 6 grafted graphene oxide nanocomposites having improved toughness and thermal stability. *K. Jung, J. Lee*
- PMSE 504.** Bioinspired ultra-low adhesive interface for 3D printing. *L. Wu, Y. Song*
- PMSE 505.** Evaluation of mechanical interlocking adhesion in complex media. *L. Wisehart, K. Vargas, S. Eristoff, C.J. Bettinger*
- PMSE 506.** Cyclic polystyrenes: Synthesis, purification and their properties. *L. Gao, Y. Tu, T. Chang, C. Li*
- PMSE 507.** Structural investigation of triphenylamine derivatives. *M. Bader, P.T. Pham*
- PMSE 508.** Radical UV-cured materials containing disulfide bonds and their physical properties. *M. Furutani, K. Okuma, K. Arimitsu*
- PMSE 509.** Novel organic-inorganic nano hybrids for FRET communication networks. *M. Hawkins, H.P. Rathnayake, J. Starobin*
- PMSE 510.** Cyclotetrazenil: From molecules to materials. *M.A. Alroyani, O. Miljanic*
- PMSE 511.** Structural property of inverse vulcanized sulfur copolymers with cyclic ring structures and their applications. *M. Omeir, V. Wadi, S. Al Hassan*
- PMSE 512.** Nanostructured hydrogels from self-assembled amphiphilic block copolymers. *M.J. Nelson, R. Hickey*
- PMSE 513.** Synthesis and application of polyelectrolytes with super acid group (VI): Evaluation of temperature effect on PEFC performance. *M. Asano, M. Fujita, Y. Takeoka, M. Rikukawa*
- PMSE 514.** Fabrication of PLLA/HAP composites with urethane bond (IV): Effect of introduction amount of urethane bonds. *M. Saito, M. Fujita, Y. Takeoka, M. Rikukawa*
- PMSE 515.** Absorption properties of dextran-polydopamine hydrogels. *N. O'Connor, M. Wong, W. Park, J. Hicks, S. Barkley*
- PMSE 516.** Understanding Lewis acid/base adduct formation when the Lewis base is attached to a polymer. *N. Pietra, T.X. Hillaire, R. Hickey*
- PMSE 517.** Composite materials based on formaldehyde-free phenolic resin and soy hulls: Preparation and mechanical properties. *N. Barashkov, T. Sakhno, A. Mantel, A. Aldongarov, I. Irgibaeva*
- PMSE 518.** Development of novel 3D printed long-acting oral (LAO) drug delivery systems. *N. Bhishe, J. Yang, N. Hartman, D. Dufour, R. Kanasty, T. Grant, A. Bellinger*
- PMSE 519.** Synthesis and evaluation of polyphenylene-based electrolytes having phosphonium group (IV): Effect of unit ratio on hydroxide conductivities. *O. Tomohisa, M. Fujita, Y. Takeoka, M. Rikukawa*
- PMSE 520.** Isotactic degradable polyesters derived from O-carboxyanhydrides of L-lactic and L-malic acid using a single organocatalyst/initiator system. *P. Bexis, J. De Winter, O.R. Coulembier, A.P. Dove*
- PMSE 521.** Development of an injectable hydrogel as a nerve tissue scaffold for local, sustained release of neuroprotective agents. *P. Cole, K. Brandecker, M. Kiae, K. Balachandran, Z.R. Tian*
- PMSE 522.** Anti-microbial alginate for wound healing applications. *P. Cole, H. Lowe, P. Ravishankar, T.N. Stuecker, J.A. Lewis, K. Balachandran, Z. Tian*
- PMSE 523.** Viscoelasticity of thermoresponsive salogels: Control via polymer hydrophobicity and crosslinker content. *P. Karimineghlani, S.A. Sukhishvili*
- PMSE 524.** Polymer/wax bending actuators. *P. Jian, K.A. Cavicchi*
- PMSE 525.** Application of X-ray scattering techniques at a chemical company with a diverse portfolio. *P. Ricou Hoefler*
- PMSE 526.** Polymer-based robust sensor array for efficient diagnosis of liver fibrosis in serum. *P. Keshri, R.F. Landis, W.J. Peveler, M. Yazdani, V.M. Rotello*
- PMSE 527.** Self-assembly of Si-containing block copolymer. *Q. Zhu, J. Koh, N.A. Lynd, C.G. Willson*
- PMSE 528.** Structural study of polyamide barrier layers in reverse osmosis membranes. *Q. Fu, B. Ocko, H. Ma, B.S. Hsiao*
- PMSE 529.** Facile silver nanoparticles synthesis using amphiphilic star-block copolymers as nanoreactors and the application in optical data storage. *Q. Li, A. Zhu, X. Wang, L. Zhu*
- PMSE 530.** Novel ordered functional liquid crystalline brush-like block copolymers as precursors for functional nanomaterials. *R. Basire, D. Ndaya, R. Kasi*
- PMSE 531.** Molecular dynamics simulations and gas permeation studies of polyimides with phosphaphenanthrene moiety. *R. Chatterjee, S. Banerjee*
- PMSE 532.** Predictive design and synthesis of metal/metal oxide nanostructures as potential nanomaterials for waste heat harvesting. *R. Yarbrough, H.P. Rathnayake*
- PMSE 533.** Correlation between the structure of donor-acceptor π -conjugated oligomers and their doping properties. *S. Chaudhry, J. Mei*
- PMSE 534.** Highly effective adsorption of methylene blue dye using N-isopropyl acrylamide based reusable superporous hydrogels. *H. Mittal, A. Goyal, R. Babu, S. Al Hassan*
- PMSE 535.** Self-assembly of pluronic block copolymers at oil/water interface. *S. Qavi, A. Lindsay, M.A. Firestone, R. Foudazi*
- PMSE 536.** Flow cytometry for the evaluation of breast cancer cells in the presence of polymer therapeutic nanoparticles. *S. Massadeh, M. Alaamery, A. Almalik, A. Alhasan, M. Almutairi*
- PMSE 537.** Enhanced material properties of two-dimensional covalent organic frameworks (2D-COFs) through interlayer hydrogen bonding. *S.B. Alahakoon, R. Smaldone*
- PMSE 538.** Dissolution of chitin with imidazolium-based solvent system. *S. Idenoue, K. Yamamoto, J. Kadokawa*
- PMSE 539.** Optical design of photoactive layers for realization of high-performance red-selective organic photodiode. *S. Yoon, J. Cho, D. Chung*
- PMSE 540.** Polymers with benzodithiophene and a series of electron acceptors: Comparison of direct arylation polymerization and Stille cross-coupling for device performance. *S. Goker, T. Bura, G. Hizalan, L. Toppare, M. Leclerc*
- PMSE 541.** Molecular dynamics study of water-soluble polymers: Analysis of force fields and benchmarking from atomistic simulations. *S. Jayaraman Rukmani, G. Kupgan, D. Anstine, C.M. Colina*
- PMSE 542.** Versatile synthesis to make novel zinc-based metal organic frameworks. *S. Dawood, H.P. Rathnayake*
- PMSE 543.** Fast and large movement from vapor-responsive polyelectrolyte-based actuator. *S. Qin, Y. Song, J. Gerringe, J.C. Grunlan*
- PMSE 544.** Mesoporous covalent organic frameworks for dye adsorption. *S. An, T. Xu, H. Liu*
- PMSE 545.** Antigen/adjuvant-polymer conjugation for enhanced cytotoxic T lymphocyte responses. *S. Lang, X. Huang*
- PMSE 546.** Free-volume characterization of TEMPO-oxidized cellulose nanofibrils films. *S. Jin, R.J. Spontak, J.Ø. Torstensen, M. Liu, L. Deng, K. Syverud, A. Hawari, Ø.W. Gregersen*
- PMSE 547.** Synthesis and evaluation of benzoxaborole containing polymers having sugar chain affinity (III) - Effect of boronic acid species on sugar binding ability. *Y. Suzuki, M. Fujita, Y. Takeoka, M. Rikukawa*
- PMSE 548.** Understanding the dissolution processes of chitin in ionic liquids: A theoretical study. *T. Uta, K. Yamamoto, J. Kadokawa*
- PMSE 549.** Redox-responsive inverse opal films based on ferrocene containing core shell particles and the melt shear organization technique. *T. Winter, X. Su, T. Hatton, S. Hardt, M. Gallei*

PMSE 550. Poly(piperazine-amide)/PMA composite nanofiltration membrane with sulfonated SiO₂ modified by bio-inspired dopamine. *T. Wang, X. He, J. Chen, J. Li*

PMSE 551. Coupled aging effects in nanofiber-reinforced siloxane foams. *T. Robison, A. Labouriau, C. Cady, D. Geller, A. Pacheco, J.A. Stull, J. Dumont*

PMSE 552. Facile preparation of crown ether functionalized porous organic polymer for water treatment. *T. Xu, S. An, C. Peng*

PMSE 553. Developing "soft-bonding" composite materials from hydrophilic polymers and azo-dyes. *T.H. Borchers, K. Edwards, C.J. Barrett*

PMSE 554. Role of supramolecular association and entropy on the phase behavior and gelation of 12-hydroxystearic acid/n-alkane organogels. *T. Lai, K.A. Cavicchi*

PMSE 555. Polymer-MOF hybrid composites with high porosity and stability. *V.J. Pastore, T.R. Cook, J. Rzyayev*

PMSE 556. Revisiting anion exchange ionomer processing: Impact of multi-block architecture and processing methods. *W.R. Khan, A. Herrera, N. Murdakes, J. Grosseohme, C.J. Cornelius*

PMSE 557. Vapor-printed polymers for flexible electronics. *W. Jo, V. Bulovic, K. Gleason*

PMSE 558. Proton conductivity properties of electrospun chitosan nanofibers. *W. Lee, J. Pietron, D.A. Kidwell, J.T. Robinson, C. McGann, S.P. Mulvaney*

PMSE 559. Antioxidant property of selenium-containing CQDs synthesized through microwave-assisted synthesis. *W. Jeong, J. Park, G. Jeong, B. Kwon, I. In*

PMSE 560. Hydrophobic protein-based elastomers compatibilized with polymerizable surfactants. *W. Chan, B.D. Olsen*

PMSE 561. Polyzymes: Polymer-based bioorthogonal nanocatalyst therapeutics. *X. Zhang, Y. Liu, R. Cao-Milán, R. Landis, D. Luther, R. Das, P. Keshri, S. Gopalakrishnan, G. Li, V.M. Rotello*

PMSE 562. Polydiacetylene-Gd³⁺ nanosheet for photoacoustic/magnetic resonance dual-modal imaging. *X. Huang, G. Wang, H. Li, D. Chen*

PMSE 563. Injectable hyaluronic acid and poly (γ-glutamic acid) hydrogels dually cross-linked by schiff base reaction and photopolymerization for tissue engineering. *X. Ma, B. Chi, Z. Ye*

PMSE 564. Impact of stereochemistry on rheology and nano/microstructure of PLA-PEO-PLA triblocks: Enhanced moduli at intermediate L/D-lactide ratios. *X. Yin, D. Hewitt, S.P. Quah, B. Zheng, R.B. Grubbs, S.R. Bhatia*

PMSE 565. Making super-toughened polylactide materials. *X. Wang, H. Fang, L. Deng, Z. Wang*

PMSE 566. Order-to-disorder transition, microphase morphology and mechanical properties of BAB triblock copolymer elastomers. *W. Wang, X. Wang, Z. Wang*

PMSE 567. Bone-targeting polyphosphoesters and their interaction with bone cells. *Y. Iwasaki, A. Yokota, A. Otaka, M. Neo*

PMSE 568. Preparation of polymeric nanogels with reversible pH-sensitivity as a smart drug carrier for cancer therapy. *Y. Li*

PMSE 569. Gel-spinning of PVA/h-BN fibers for thermally conductive fabrics. *Y. Mu, H. Li, M. Minus*

PMSE 570. Synthesis and charge transport study of polymers with stable radical substituents. *Y. Zhang, A. Park, A. Cintora, S. McMillan, N. Harmon, A. Moehle, M. Flatté, G. Fuchs, C.K. Ober*

PMSE 571. Organophosphorus hydrolase-poly-β-cyclodextrin as a self-decontaminating bio-catalytic material for sorption and degradation of organophosphate pesticide. *Y. Moon, A.T. Jafry, S. Kang, K. Baek, S. Shin, S. Bae, Y. Lee, J. Lee*

PMSE 572. Preparation and characterization of branched chitin. *Y. Obama, K. Yamamoto, J. Kadokawa*

PMSE 573. Sensing of biomolecules using cationic p-conjugated polymers (I): Anion substitution effect. *Y. Shimada, M. Fujita, Y. Takeoka, M. Rikukawa*

PMSE 574. Preparation of core-shell structured BN@SrTiO₃@MWCNTs-EP composites with high thermal conductivity, high dielectric constant and low dielectric loss. *Y. Liu*

PMSE 575. Graphite fluoride reinforced epoxy resin composites for corrosion-resistant coating and structural materials applications. *Z. Cai, C. Zhang*

PMSE 576. Characterization of injectable hydrogel. *Z. Qiao, K. Chen, H. Ji*

PMSE 577. General water-based strategy for the preparation of superhydrophobic coatings on smooth substrates. *Z. Wang, X. Wu, X. Xu*

PMSE 578. Head-tail asymmetry determines formation of polymer cubosomes or hexasomes in a rod-coil amphiphilic block copolymer. *Z. Shen*

PMSE 579. Self-assembly behavior of an oligothiophene-based conjugated liquid crystal and its implication for ionic-electronic mixed conductivity. *Z. Liu, B. Dong, M. Misra, F. Escobedo, P.F. Nealey, C.K. Ober*

PMSE 580. Novel nanoparticle network design and investigation of their tunable properties. *L. Williams, E. Harth*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Joint PMSE-POLY Poster Session

Porous Polymers

Cosponsored by POLY
E. Harth, Organizer
6:00 – 8:00

PMSE 581. State of water absorbed in epoxy with voids. *F.I. Abdelmola, L.A. Carlsson*

PMSE 582. Evaluation of the angiogenic and osteogenic activity of two potent alternatives to VEGF: 2-deoxy-D-ribose (2dDR) and 17β-Estradiol (E2) loaded tissue engineering scaffolds. *S. Dikici, N. Mangir, J.M. Kanczler, M. Yar, R. Oreffo, S. MacNeil*

PMSE 583. Investigating the barrier membrane properties of biphasic PCL scaffolds for guided tissue regeneration. *S. Dikici, B. Aldemir Dikici, G.C. Reilly, F. Claeysens*

PMSE 584. Block copolymer self-assembly derived porous functional materials for energy and separation applications. *S.A. Hesse, P.A. Beaucage, J. Werner, K.P. Barteau, U.B. Wiesner*

PMSE 585. Elucidating reaction pathways in the synthesis of block copolymer-derived porous inorganic materials via *in situ* SAXS/WAXS and XAS. *P. Beaucage, F.J. DiSalvo, S.M. Gruner, U.B. Wiesner*

PMSE 586. Preparation of highly aligned and interconnected porous poly(ε-caprolactone) scaffolds via solid phase extrusion. *H. Yin, W. Liu, Y. Ren, J. Li, B. Zhao, J. Xu, Z. Li*

PMSE 587. Assessment of the osteogenic and angiogenic potential of *in vitro* generated extracellular matrix decorated multiscale porous polyHIPE scaffolds. *B. Aldemir Dikici, G.C. Reilly, F. Claeysens*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Joint PMSE-POLY Poster Session

Probing Structure & Morphology of Polymers & Polymer Composites in Real & Reciprocal Space

Cosponsored by POLY
E. Harth, Organizer
6:00 – 8:00

PMSE 588. Degradation of polyamide 12 exposed to petroleum diesel, biodiesel and their mixture. *X. Wei, M. Hedenqvist*

PMSE 589. Characterization of core-shell structured polymer/ZIF-8 porous nanomaterials. *Y. Zhou, T. McNally, R. Walton, C. Wan*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Joint PMSE-POLY Poster Session

Surface, Interface & Coating Materials

Cosponsored by POLY
E. Harth, Organizer
6:00 – 8:00

PMSE 590. Design polymeric Janus nanoparticles by emulsion polymerization. *Y. Li, S. Demirci, Z. Xu, D. Palm, S. Jiang*

PMSE 591. Electrowetting-speeding and modulating construction of polymeric assemblies. *J. Hou, H. Li, X. Mu*

PMSE 592. Mediating the interfaces between metal-organic frameworks and polymeric substrates using adhesive curl nanofibers. *C. Zhang, Y. Li, H. Wang, S. He, Y. Xu, C. Zhong, T. Li*

PMSE 593. Upconverting nanoparticles for UV/Vis photoinitiated generation of acidic cations and radicals with NIR lasers emitting at 976 nm. *D.P. Oprych, C. Schmitz, S. Wu, J.S. Gutmann, B. Strehmel*

PMSE 594. Ciprofloxacin releasing layer-by-layer films of poly(2-isopropyl 2-oxazoline) and tannic acid. *E. Cagli, E. Ugur, I. Erel-Goktepe*

PMSE 595. Development of structure in adsorbed hexadecyltrimethoxysilane on silica. *H.J. Perera, F.D. Blum*

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Joint PMSE-POLY Poster Session

Synthesis, Processing & Device Engineering

Cosponsored by POLY
E. Harth, Organizer
6:00 – 8:00

PMSE 596. Highly transparent crosslinkable radical copolymer thin film as the ion storage layer in organic electrochromic devices. *J. He*

PMSE 597. Water-soluble ladder-type quinacridone derivatives. *C. Chang, L. Fang*

Block Polymer Synthesis & Nanoscale Self-Assembly

Sponsored by POLY, Cosponsored by PMSE²

WEDNESDAY MORNING

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Applications

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)

N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, Organizers

M. Titirici, M. Ulbricht, Presiding

8:30 PMSE 598. Shape memory polymer scaffolds based on PCL-PLLA semi-IPNs. *M. Grunlan, L.N. Woodard*

9:00 PMSE 599. Functional porous cellulose-based nanocomposites by phase separation from ionic liquid based solvents. *A. Wittmar, H. Boehler, Q. Fu, A.L. Kayali, M. Ulbricht*

9:30 PMSE 600. Porous polycarbonate-bearing membrane actuator for ultrasensitive weak-acid detection and real-time chemical reaction monitoring. *J. Sun, W. Zhang, R. Guterman, H. Lin, J. Yuan*

9:50 PMSE 601. Functionalized polymer beads for targeted removal of contaminants. *K.M. Hutchins*

10:10 Intermission.

10:25 PMSE 602. Sustainable carbon materials from biopolymers for renewable energy. *M. Titirici*

10:55 PMSE 603. Nanoporous photo-responsive silsesquioxane based network vopolymers made by TBAF catalysis. *J.C. Furgal, N. Hu, B. Rupasinghe, T. May, R. Bianculli*

11:15 PMSE 604. Stimuli responsive inverse opal films by melt shear organization of tailored particle architectures. *T. Winter, M. Gallei*

11:35 PMSE 605. Anchored phosphonium and graphene oxide on PVDF/PBSA membranes towards bacterial reduction and antifouling activities. *P.K. Samantaray, G. Madras, S. Bose*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in honor of Aleksandr V. Zhukhovitskiy

Cosponsored by CHED³, POLY² and PROF
Financially supported by Henkel Corporation
M. K. Mahanthappa, Organizer, Presiding

8:00 PMSE 606. Metallo-supramolecular polymers as a route to adaptive polymer films. *S.J. Rowan*

8:30 PMSE 607. Fundamental reactivity of silyl ketenes for the preparation of unexpected small molecules. *Y. Xiang, R. Matthews, E. Pentzer*

9:00 PMSE 608. High aspect ratio nanotubes assembled from macrocyclic iminium salts. *W.R. Dichtel, C. Sun, M. Olvera De La Cruz, M. Shen, A. Chavez*

9:30 PMSE 609. Sequence and structural control in polymers. *C.J. Hawker*

10:00 Intermission.

10:15 PMSE 610. New chemistries for the syntheses of polymers with designed functions. *R.H. Grubbs*

10:45 PMSE 611. Harnessing metallo-supramolecular assembly in polymer networks: New designs for PolyMOCs and PolyMOFs. *M.J. MacLeod, Y. Gu, M. Huang, J.A. Johnson*

11:15 Award Presentation.

PMSE

11:20 PMSE 612. Advancing coordination chemistry in materials science: From linear and network polymers to surfaces. *A.V. Zhukhovitskiy, I.J. Kobylanski, D. Toste, J.A. Johnson*

SECTION C

*Westin Boston Waterfront
Stone*

Multifunctional Nanocomposites & Surface Damage Phenomena in Polymers

In Honor of Prof. Hung-Jue Sue's 60th Birthday

Financially supported by Southwest Petroleum University; Formosa Plastics Co., USA; Akron Ascent Innovations, LLC; ExxonMobil; Kaneka Americas Holding, Inc. M. Kotaki, Y. Li, D. Liu, D. Sun, L. Sun, *Organizers* K. White, *Organizer, Presiding* S. Zeng, *Presiding*

8:00 PMSE 613. Formation of continuous structure of functional fillers using phase structures in epoxy polymer blends as the templates. *H. Kishi, A. Fujikawa, S. Kawakami*

8:30 PMSE 614. Cast extrusion and thermoforming of PLA/PBS blends: Effect of nucleating agents on crystallization. *M. Barletta, C. Aversa, A. Donninelli*

9:00 PMSE 615. Structure-property relationships of high strength removable dry adhesives based on electrospun nanofiber arrays. *K. White, F. Wang, D.H. Reneker, J. Wong*

9:30 PMSE 616. Bio-inspired stimuli responsive materials. *S. Zeng, R. Li, D. Zhang, L. Sun*

10:00 Intermission.

10:15 PMSE 617. Design and preparation of flame retardant polybenzoxazine nanocomposites. *C. Zhao, Y. Li*

10:40 PMSE 618. Multifunctional benzoxazine matrices for light weight and high performance composite materials. *L. Bonnaud, L. Dumas, M. Poorteman, M. Olivier, P. Dubois*

11:05 PMSE 619. Epoxy/zeolitic imidazole framework-8 nanocomposites for low-k dielectrics. *C. Liu, M. Mullins, S. Hawkins, M. Kotaki, H. Sue*

11:30 PMSE 620. High-performance catalyst and recyclable based on Au/ZrP composites for reduction of 4-nitrophenol. *G. Lai, T. Huang, Y. Pai, T. Yang, M. Tsai*

SECTION D

*Westin Boston Waterfront
Webster*

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*
J. M. Paloni, J. Tindal, *Presiding*

8:30 PMSE 621. Triazine trione based adhesive as potential materials for bone fracture fixation. *I. Heckler, M. Arseneault, V. Granskog, P. Mesa Antunez, Y. Zhang, M. Malkoch*

8:50 PMSE 622. Temperature dependence of persistence length affects top-down descriptions of aligning interactions in nematic conjugated polymers. *J. Martin, E.C. Davidson, C. Greco, W. Xu, J.H. Bannock, A. Agirre, J. de Mello, R.A. Segalman, N. Stingelin, K. Doaurles*

9:10 PMSE 623. Biomaterials responsive to metabolites of disease. *K. Fruehauf, T. Kim, Q. Pham, S. Wang, K.J. Shea*

9:30 PMSE 624. Nanobody-polymer conjugate arrays for enhanced biosensor sensitivity and selectivity. *J.M. Paloni, X. Dong, E. Miller, H.D. Sikes, B.D. Olsen*

9:50 Intermission.

10:10 PMSE 625. Adaptable thermo-responsive polymer nanostructures for enzyme-triggered biomolecule delivery. *L. Massi, R. Chapman, C. Spicer, A. Najer, M. Booth, M. Stevens*

10:30 PMSE 626. Folate conjugated luminescent difluoroboron β -diketonate PLA-PEG stereocomplex nanoparticles for multicolor and tumor oxygen imaging. *M. Zhuang, A. Rickard, C.A. DeRosa, G. Palmer, C.L. Fraser*

10:50 PMSE 627. Fabrication of ellipsoidal mesostructures in block copolymers via a step-shear deformation. *M. Mueller, D. Sun*

11:10 PMSE 628. Phenolic polymer interactions with water and ethylene glycol solvents from molecular dynamics simulation. *J. Haskins, E. Bucholz, J. Monk, C. Bauschlicher, J. Lawson*

11:30 PMSE 629. Synthesis and characterization of high molecular weight poly (xylyl sebacate) polymers for improved targeted nanoparticle drug delivery. *J. Tindal, T. Grier, J. Brown, N. Arnett*

SECTION E

*Westin Boston Waterfront
Grand Ballroom E*

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*
W. Li, C. Pattillo, *Presiding*

8:30 PMSE 630. Investigating kinetic traps in 2D alkyne metathesis systems. *C. Pattillo, J. Moore*

8:50 PMSE 631. Ultra high molecular weight hyperbranched polyglycerol in articular cartilage lubrication. *J. Mäkelä, A. Parambath, C. Bordeianu, T. Lawson, S. Abbina, B. Nelson, B.D. Snyder, J.N. Kizhakkedathu, M.W. Grinstaff*

9:10 PMSE 632. Real-time, bioorthogonal tuning of cell-laden hydrogels to modulate stem cell behaviors in 3D. *J. Song, Y. Hao, A. Ravikrishnan, J.M. Fox, X. Jia*

9:30 Intermission.

9:50 PMSE 633. Hybrid multivalent antifreeze protein/polymer materials. *L.E. Wilkins, M.I. Gibson, M. Hasan, C.I. Biggs, A. Fayer*

10:10 PMSE 634. Using differential scanning calorimetry to characterize the crosslinking of polydimethylsiloxane. *M.M. Salamon, J. Timmerman*

10:30 PMSE 635. New evidence of degradation of emulenanin as a mechanism of UVA protection. *W. Li, A.N. Dhinojwala*

10:50 PMSE 636. PDMS incorporated PVA-PCM electrospun nanocomposite fibrous mats with improved mechanical behavior for membrane and heat storage applications. *S. Perween, A. Ranjan*

SECTION F

*Westin Boston Waterfront
Grand Ballroom D*

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*
Z. Xia, X. Yu, *Presiding*

8:30 PMSE 637. Flammable graphene oxides cross-linked into inflammable, versatile 3D-scaffolds and membranes. *Z.R. Tian, H. Turgut, A. Ozkizilcik*

8:50 PMSE 638. Less is more: An unexpected structure-property relationship in furan-based sustainable polymers. *X. Yu, J. Jia, S. Xu, K. Lao, M.J. Sanford, R. Ramakrishnan, S.I. Nazarenko, T.R. Hoye, G.W. Coates, R.A. Distasio*

9:10 PMSE 639. Transparent epoxy-ZnO/CdS nanocomposites with tunable UV and blue light-shielding capabilities. *F. Wang, C. Han, M. Yang*

9:30 PMSE 640. Choose a trigger: pH, reduction potential, or light. Dynamic covalent bonds for in vivo stabilization of poly(peptide)ide-based micelles. *T.A. Bauer, K. Klinker, O. Schäfer, M. Barz*

9:50 Intermission.

10:10 PMSE 641. Impact sensing elastomer gels. *V. Alphonse, N. Vavalle, J. Paulson, A. Timm, Z. Xia*

10:30 PMSE 642. All soybean oil-based thermoset films and fibers with high biorenewable content. *S. Kim, H. Ha, C.J. Ellison*

10:50 PMSE 643. Revisiting traditional anion exchange ionomer processing: Impact of solution-to-film evolution on ionomer properties. *W.R. Khan, N. Murdakes, C.J. Cornelius*

11:30 PMSE 644. Synthesis of bio-based and recyclable thermosets. *Y. Xu, K. Odelius, M. Hakkarainen*

SECTION G

*Westin Boston Waterfront
Hale*

Surface, Interface & Coating Materials

Functional Surface & Coatings
Cosponsored by COLL and POLY
Financially supported by PPG Industries, Inc.
S. Jiang, X. Yong, *Organizers*

Z. Cao, *Organizer, Presiding*
8:00 PMSE 645. Designing durable icephobic surfaces. *A. Tuteja, K. Golovin*

8:25 PMSE 646. Functional textiles for screen printing and oil/water separation. *G. Liu*

8:50 PMSE 647. Functionalized siloxane-based surface active block copolymers: Controlling surface chemistry and antifouling performance. *A. Leonardi, N. Duzen, M.E. Barry, A. Patterson, J. Finlay, N. Aldred, A.S. Clare, R.A. Segalman, C.K. Ober*

9:05 PMSE 648. Engineering polyzwitterionic protein conjugates for minimized immunogenicity and improved therapeutic efficacy. *Z. Yuan, S. Jiang*

9:20 PMSE 649. Surface segregation of metal oxide nanoparticles in polypropylene fibers and films. *S. Kim, E.A. Welsh, R. Pang, P.J. Stenhouse, D.M. Steeves, J.W. Soares, J.E. Whitten*

9:35 PMSE 650. SLIPS amphiphilic hybrids as promising environmental fouling control coatings. *T.P. Galhenage, A. Vena, C. Cannon, T. Hunsucker, C. Khatri, A. Labak, T. Banks, P. Kim, J. Lomakin*

9:50 Intermission.

10:00 PMSE 651. Developing advanced biomaterials for cellular medicine. *M. Ma*

10:25 PMSE 652. Durable zwitterionic coatings for antifouling applications. *Z. Cao*

10:50 PMSE 653. Generation of circular gradients of active proteins on radially aligned nanofibers for potential application in wound closure. *T. Wu, J. Xue, Y. Xia*

11:05 PMSE 654. Multifunctional nanocoatings from one-step co-assembly. *S.E. Chavez, J. Liu, M. Libardo, G. Ducati, Q. Dao, A.M. Angeles Boza, L. Sun*

11:20 PMSE 655. Nanoparticle hydrophilicity mitigates the immune responses. *B. Li, S. Jiang*

11:35 PMSE 656. Silica-reinforced amphiphilic silicones for antifouling applications. *J. Suriboot, D. Ortiz-Acosta, M. Grunlan*

SECTION H

*Westin Boston Waterfront
Grand Ballroom B*

Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by IKA Works, Inc.; Chemglass Life Sciences; Pure Process Technology; Kurt J. Lesker Company; LC Technology Solutions; Strem Chemicals, Inc.; Agilent Technologies

C. Di, A. Dudnik, L. Fang, J. Mei, *Organizers*
X. Guo, *Presiding*

8:30 PMSE 657. Emerging approaches to measure orientational order in organic semiconductors. *D. DeLongchamp, J.L. Thelen, N. Persson, L.J. Richter*

9:00 PMSE 658. Qualifying and quantifying order in semiconducting polymers. *C.R. Snyder*

9:30 PMSE 659. Morphology, structure, and enhanced intramolecular conduction in ultralong conjugated polymer brushes. *I. VonWald, M. Moog, F. Tsui, W. You*

9:45 PMSE 660. Dodecaborane clusters as tunable dopants for conjugated polymers. *T. Aubry, J. Axtell, A.M. Spokojny, B.J. Schwartz*

10:00 Intermission.

10:20 PMSE 661. Nature and extent of solution aggregation determines the performance of P(NDI2OD-T2) thin-film transistors. *C.R. McNeill, M. Nahid, A. Welford, E. Gann, L. Thomsen, M. Sommer, K. Sharma*

10:50 PMSE 662. Biomimetic, wearable organic electronics via 3D printing. *Y. Wang*

11:20 PMSE 663. Direct write of UV curable polymer bonded magnets. *A. Shen, A.W. Ma, C. Bailey, S. Dardona*

11:35 PMSE 664. SAM modified ZnO NP film as interlayer for polymer tandem solar cells. *Y. Chao, C. Chi, Y. Tai*

11:50 PMSE 665. Suppression of coffee-ring effect by employing dielectrophoresis force. *H. Pan, M.J. Sobkowicz*

SECTION I

*Westin Boston Waterfront
Burroughs*

Polymer Nanoscience & Nanotechnology

Financially supported by Chinese Chemical Society (CCS)-Polymer Division

Z. Li, Q. Lin, D. Wang, *Organizers, Presiding*

8:30 Introductory Remarks.

8:35 Introductory Remarks.

8:40 PMSE 666. Green printing technology based on nanomaterials. *Y. Song*

9:10 PMSE 667. Colloidal crystal engineering with high information content polymers. *C.A. Mirkin*

9:40 PMSE 668. Bio-inspired adaptive gel materials through multi-phase order-structure engineering. *M. Liu*

10:10 Intermission.

10:30 PMSE 669. Engineering assembly pathways of colloidal crystals, protein crystals, and foldings. *S.C. Glotzer*

11:00 PMSE 670. Photodeformable linear liquid crystal polymers and nanostructures fabrication. *Y. Yu, Y. Liu, X. Qing*

11:30 PMSE 671. Designing mesoscale materials from nanoscale components. *T. Emrick*

Block Polymer Synthesis & Nanoscale Self-Assembly

Sponsored by POLY, Cosponsored by PMSE²

WEDNESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

Porous Polymers

Macroporosity

Cosponsored by POLY

Financially supported by Micrometrics Instrument Corp.; Polymer (Elsevier)

N. R. Cameron, W. R. Dichtel, M. S. Silverstein, U. B. Wiesner, *Organizers*

A. P. Dove, C. Stubenrauch, *Presiding*

1:30 PMSE 672. Control over the properties of porous hydrogel materials using nucleophilic thiol-yne addition chemistry. *A.P. Dove, M. Perez-Madrugal, L. Macdougall*

2:00 PMSE 673. Microfluidics: A tool to control the degree of polydispersity. *S. Andrieux, T. Roland, A. Menner, W. Drenckhan, M. Costantini, A. Barbetta, W. Swieszkowski, C. Stubenrauch*

2:30 PMSE 674. Antifreeze nanostructured hydrogels based on supramolecular copolymers. *C. Wang, C. Wiener, B.D. Vogt, R.A. Weiss*

2:50 PMSE 675. Emulsion-templated polyimide aerogel foams. *N. Teo, S.C. Jana*

3:10 Intermission.

3:25 PMSE 676. Conformal, lightweight antennas fabricated using flexible polyimide aerogel substrates. *M. Meador*

3:55 PMSE 677. Nanomaterials in aerogel compositions: Efficient oil-water separators and catalysis. *R.C. Advincula*

4:15 PMSE 678. Hierarchical nanostructure and physical properties of highly porous poly(ether ether ketone) aerogels. *R.B. Moore, S. Talley, S.L. Vivod, B.N. Nguyen, M. Meador*

4:35 PMSE 679. K-index: A quantitative tool that correlates complex polymeric nanomorphologies with synthetic conditions. *N. Leventis, T. Taghvaei, S. Donthula, C. Sotiriou-Leventis*

4:55 Concluding Remarks.

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

C. Clarkson, J. Zeng, *Presiding*

1:30 PMSE 680. Genetically engineered protein-based polymers with broad antimicrobial activity for biomedical applications. *A. da Costa, V. Sencadas, S. Lanceros-Mendez, A.F. Gomes, J.C. Rodriguez-Cabello, M. Casal, R. Machado*

1:50 PMSE 681. Melt spun cellulose nanofibril/poly(lactic acid) composite fibers. *C. Clarkson, R.A. Chowdhury, S.M. El Awad Azrak, J.P. Youngblood*

2:10 PMSE 682. Efficient antiviral co-delivery polymersomes by optimization of surface density of cell-targeting phenylboronic acid functional groups for virus treatment. *C. Park, H. Chun, H. Kim, J. Lim, G. Park, S. Haam*

2:30 Intermission.

2:50 PMSE 683. Synthesis of polymer-protein hybrids based on thiol-disulfide exchange reaction. *H. Zhao*

3:10 PMSE 684. Star-shaped dendrimers with antioxidant properties. *C.Y. Lee, A. Sharma, C. Anamoah, H. Brinkman, R.L. Uzarski*

3:30 PMSE 685. Near-infrared enhanced Fenton reaction mediated by cascade upconversion nanoparticles in combination with immunotherapy for elimination of primary tumor and remission of metastasis. *J. Chen*

3:50 PMSE 686. Dendrimer-mediated targeted drug delivery to glial glutamate carboxypeptidase II for the treatment of neurological diseases. *A. Sharma, S. Kambhampati, Z. Zhang, C. Tallon, R. Sharma, A. Thomas, K. Liaw, C. Rojas, B. Slusher, S. Kannan, R. Kannan*

4:10 PMSE 687. pH-activable polymeric nanoparticles restore pH in lysosomal dysfunctional diseases. *J. Zeng, O. Shirihai, M.W. Grinstaff*

SECTION C

Westin Boston Waterfront
Stone

Multifunctional Nanocomposites & Surface Damage Phenomena in Polymers

In Honor of Prof. Hung-Jue Sue's 60th Birthday

Financially supported by Southwest Petroleum University; Formosa Plastics Co., USA; Akron Ascent Innovations, LLC; ExxonMobil; Kaneka Americas Holding, Inc.

M. Kotaki, D. Sun, L. Sun, K. White, *Organizers*

Y. Li, D. Liu, *Organizers, Presiding*

1:30 PMSE 688. Ultra-toughening of engineering plastics. *T. Inoue*

1:55 PMSE 689. Essential work of fracture of m-LLDPE blown films. *D.M. Fiscus, G. Gururajan, X. Chen, J. Schaefer, S. Yakovlev, K. Chen*

2:20 PMSE 690. Tough composite with slide-ring materials. *K. Ito*

2:45 PMSE 691. Tailoring crystalline architecture: Towards simultaneous reinforcing and toughening of polylactide and its nanocomposites. *H. Wu, S. Guo, X. Song, C. Li*

3:10 Intermission.

3:25 PMSE 692. Thermoplastic composite solutions for mass markets: Opportunities and challenges. *N. Verghese*

3:50 PMSE 693. High-speed fracture behaviors on novel polymers and its blends. *H. Ito, T. Konno, R. Tamamura, Y. Kodama, F. Sakakibara, A. Ishigami, T. Kurose, S. Nishitsuji*

4:15 PMSE 694. Multifunctional core-shell microspheres for toughening of epoxy resins. *H. Li, Y. Li*

4:40 PMSE 695. Epoxy toughening with graphite fluoride: Toward high toughness and strength. *F. Lei, D. Sun*

5:05 Concluding Remarks.

SECTION D

Westin Boston Waterfront
Webster

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

K. Sadman, S. Vaidya, *Presiding*

1:30 PMSE 696. Pushing the limits – producing highly porous epoxy resins. *P. Steindl, A. Menner, A. Bismarck*

1:50 PMSE 697. Thin, lightweight, layered electromagnetic wave absorber derived from functional GO/epoxy/carbon fiber composites for far Ku-band frequency region application. *R. Rohini*

2:10 PMSE 698. Development of molecularly imprinted polymeric (MIP)-based sensors for detection of volatile atmospheric pollutants. *S.F. Li*

2:30 PMSE 699. Molecular engineering of mechanochromic dye incorporated homopolymers with two different architectures. *S. Vaidya, M. Sharma, C. Bruckner, R. Kasi*

2:50 Intermission.

3:10 PMSE 700. Influence of hydrophobicity on polyelectrolyte complexation. *K. Sadman, Q. Wang, Y. Chen, B. Keshavarz, Z. Jiang, K.R. Shull*

3:30 PMSE 701. Mechano-chemical polymer modification for compatible and sustainable polymer blends. *M.J. Sobkowicz, B.A. Calderon, A. Farahanchi, J. Gug*

3:50 PMSE 702. Dendrimers of inherent anticancer activity. *Y. Shen, S. Shao*

4:10 PMSE 703. Wood pulp fiber wrapped by fish-scale graphene as flexible and free-standing supercapacitor electrode. *M. Jia*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

L. Favre, S. A. Mcnelles, *Presiding*

1:30 PMSE 704. High-voltage insulators based on polymers and nanocomposites derived from natural resources. *F. Wiesbrock, A. Eibel, P. Marx, H. Jin, I. Tsekmes, R. Kochetov, J. Smit*

1:50 PMSE 705. Tunable organic-inorganic frameworks for functional diversification and near atomic-scale dimensional-controlled patterning. *H.P. Rathnayake, S. Dawood, G. Pathiraja*

2:10 PMSE 706. Prediction of plasticization mechanisms for biobased plastics through a combined experimental and molecular dynamics simulations approach. *H. Özeren, F. Nilsson, R. Olsson, M. Hedenqvist*

2:30 PMSE 707. Rapid synthesis of high generation polyester dendrimers via strain-promoted alkyne-azide cycloaddition (SPAAC). *S.A. Mcnelles, A. Adronov*

2:50 PMSE 708. Direct comparison of filler reinforcement efficiency within a polymer-CNT composite versus a polymer-CNT blend. *H. Li, M. Minus*

3:10 Intermission.

3:30 PMSE 709. Reactive extrusion of biopolymers by means of a new type of biocompatibilizer. *B.A. Calderon, M.J. Sobkowicz*

3:50 PMSE 710. Characterization of nanoparticle dispersion and distribution in polymer nanocomposites. *J. Iyer Ganapathi, D.M. Kalyon, F. Fisher*

4:10 PMSE 711. Supramolecular silicone self-healing materials. *L. Favre, D. Portinha, J. Pascault, E. Fleury, F. Ganachaud*

4:30 PMSE 712. Silicone formulations vs final mechanical properties of model specimens prepared by additive manufacturing. *M. Crouillere, C. Barres, F. Ganachaud*

SECTION F

Westin Boston Waterfront
Grand Ballroom D

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

S. Gee, S. Pradhan, *Presiding*

1:30 PMSE 713. Programmed deformations of patterned hydrogels. *Z. Wu*

1:50 PMSE 714. High efficient method towards fatty acid-derived functional polyamides. *Z. Wang, L. Song*

2:10 PMSE 715. Post synthesis modifiable polymers via cyanuric chloride derivatives. *M. Galazzo, E. Zilbut, N. Arnett*

2:30 PMSE 716. Conductive polymer composites from self-assembled graphene networks by photo and microwave induced polymerization. *T. Hui, D. Adamson*

2:50 Intermission.

3:10 PMSE 717. Electrospinning polymeric nanofiber membranes for piezoelectric fouling mitigation in separation processes. *S. Gee, A. Smith*

3:30 PMSE 718. Production and characterization of biodegradable polymer poly (3-hydroxybutyrate) using ultrasound assisted extraction. *S. Pradhan, P. Dikshit, V. Moholkar*

3:50 PMSE 719. Tailoring multi-block architecture and ionomer processing to produce films with enhanced conductivity and toughness. *W.R. Khan, A. Herrera, N. Murdakes, J. Grosseehme, C.J. Cornelius*

4:10 PMSE 720. Biofunctional and bioresponsive polymer ECM mimics: Mechanics and biological function. *P.H. Kowser*

SECTION G

Westin Boston Waterfront
Hale

Surface, Interface & Coating Materials

Applied Surface & Coating Research

Cosponsored by COLL and POLY

Financially supported by PPG Industries, Inc.

Z. Cao, X. Yong, *Organizers*

S. Jiang, *Organizer, Presiding*

1:30 PMSE 721. Underwater, anti-oil fouling coatings from spray coating of polymer grafted silica nanochains. *Z. Liao, G. Wu, D. Lee, S. Yang*

1:55 PMSE 722. Janus matter. *Z. Yang*

2:20 PMSE 723. Universal smart antibacterial surfaces with regenerability and multifunctionality. *Q. Yu, T. Wei, H. Chen*

2:35 PMSE 724. High-performance and biocompatible thiol-ene based adhesive for bone fracture fixation. *V. Granskog, S. Garcia-Gallego, J. von Kieseritzky, J. Pettersson, P. Stenlund, Y. Zhang, S. Petronis, B. Lyvén, M. Arner, J. Håkansson, M. Malkoch*

2:50 PMSE 725. Slippery liquid infused porous surfaces (SLIPS) coating on aluminum heat exchangers for energy-efficient refrigeration systems. *P. Kim, J. Alvarenga, J. D'Eon, M. Kreder, J. Aizenberg*

3:05 PMSE 726. Transient probe-type bioelectronics implants: Solvent-free strategy to coat transient metals with silk. *M. Hawker, C. Guo, D. López Barreira, F. Martin-Martinez, F. Omenetto, M. Buehler, D.L. Kaplan*

3:20 Intermission.

3:30 PMSE 727. Coatings for ballistic impact. *A.P. Holt, T. Ransom, C.M. Roland*

3:55 PMSE 728. Antioxidant polymer coatings for corrosion protection of metal substrates. *H. Hlushko, Y. Cubides, R. Hlushko, T. Kelly, K. Boening, H. Castaneda, S.A. Sukhishvili*

PMSE/PROF

4:10 PMSE 729. Phenyl modified hybrid melting gels for anticorrosive applications. *G. Rodriguez, J. Guzman, R. Daher, J. Mosa, M. Aparicio, M. Jitianu, L.C. Klein, A. Jitianu*

4:25 PMSE 730. Ultrathin nanobrick wall anticorrosion coatings. *S. Qin, Y. Cubides, L. Ramatou, S. Lazar, Y. Song, J. Gerringer, H. Castaneda, J.C. Grunlan*

4:40 PMSE 731. Superior performance polymer nanocomposites based on melanin nanoparticles. *Y. Wang, W. Dong, W. Ming*

4:55 PMSE 732. Effect of poly-L-lysine molecular weight on antibacterial activity in polyelectrolyte multilayer assemblies. *D. Alkekha, A. Shukla*

SECTION H

Westin Boston Waterfront
Grand Ballroom B

Synthesis, Processing & Device Engineering of Polymeric Electronic Materials

Financially supported by IKA Works, Inc.; Chemglass Life Sciences; Pure Process Technology; Kurt J. Lesker Company; LC Technology Solutions; Strem Chemicals, Inc.; Agilent Technologies

C. Di, A. Dudnik, L. Fang, J. Mei, *Organizers*
X. Gu, *Presiding*

1:30 PMSE 733. Emerging designs for magento-optical semiconductive polymers. *T.M. Swager*

2:00 PMSE 734. Multipurpose molecular spintronic device. *X. Sun*

2:30 PMSE 735. Achieving relaxor ferroelectric-like behavior in nylon-based random copolymers and terpolymers. *L. Zhu, Z. Zhang, M. Litt*

3:00 PMSE 736. Locking impurity ions in high T_g PC layers in PC/PVDF multilayer capacitor films and the effect on dielectric breakdown strength. *X. Chen, H. Huang, E. Baer, L. Zhu*

3:15 Intermission.

3:35 PMSE 737. Designing solution processable polymeric hole transport layer material with improved OLED device performance. *S. Mukhopadhyay*

4:05 PMSE 738. Thioxanthone derivatives and their application for OLEDs. *Y. Wang*

4:35 PMSE 739. Can P(VDF-CTFE) achieve relaxor ferroelectric behavior by inclusion of CTFE units in the crystalline phase? *Y. Huang, Y. Li, L. Zhu*

4:50 PMSE 740. Peltier effect in polymer based organic thermoelectric material. *W. Jin, C. Di, D. Zhu*

SECTION I

Westin Boston Waterfront
Burrighs

Polymer Nanoscience & Nanotechnology

Financially supported by Chinese Chemical Society (CCS)-Polymer Division

Z. Li, Q. Lin, D. Wang, *Organizers, Presiding*

1:30 PMSE 741. Functional nanostructures through polymerization induced microphase separation. *M.A. Hillmyer*

2:00 PMSE 742. Frame-guided assembly. *D. Liu*

2:30 PMSE 743. Structural DNA nanotechnology: A foundation for programmable biological materials. *M. Bathe*

3:00 Intermission.

3:20 PMSE 744. Self-assembly of a polycyclic aromatic dicarboximide with competing cooperative and anti-cooperative paths. *D. Zhao, J. Xie*

3:50 PMSE 745. Nanolayered treatments as surface-based delivery systems. *P.T. Hammond*

4:20 PMSE 746. Single-molecule study on the melting and crystallization of polymer single crystals. *W. Zhang*

4:50 Concluding Remarks.

Polymer History

Sponsored by POLY, Cosponsored by HIST, PMSE and SCC[†]

WEDNESDAY EVENING

POLY/PMSE Plenary & Awards Event

Sponsored by POLY, Cosponsored by PMSE[†] and PROF

THURSDAY MORNING

SECTION A

Westin Boston Waterfront
Commonwealth Ballroom A

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

H. V. Kumar, V. Valsangkar, *Presiding*

8:30 PMSE 747. Polymers and 2D nanosheets. *H.V. Kumar, L. Gonzalez-Fajardo, V. Vasu, K.Y. Huang, X. Lu, D.H. Adamson*

8:50 PMSE 748. Encapsulation of liquid crystal MBBA in electrospun coaxial fibers. *M.J. Bertocchi, D.C. Ratchford, R. Casalini, J.H. Wynne, J. Lundin*

9:10 PMSE 749. Mixed initiation as a strategy for controlling surface functionality within branched vinyl copolymer-derived nanoparticles. *S. Rannard, F. Hatton, F.Y. Hern, A. Dwyer, S. Edwards*

9:30 PMSE 750. Synthesis of polymer-grafted graphene oxide and thermally reduced graphene oxide by RAFT living free radical solution polymerizations and their effects on the volume shrinkage, mechanical properties, and thermal conductivities of cured epoxy resins. *Y. Huang, C. Chan, W. Liao, Y. Chiang, G. Chiu*

9:50 Intermission.

10:10 PMSE 751. Design of fully degradable zwitterionic cylindrical nanocarriers loaded with silver for treatment of recurrent urinary tract infections (UTIs). *Y. Song, R. Li, S. Khan, M. Elsbahy, R.A. Letteri, L. Su, M. Dong, H. Wang, K.L. Wooley*

10:30 PMSE 752. Stimuli-responsive dendronized polymers showing switchable encapsulation and release of guests. *W. Li, X. Su, K. Liu, A. Zhang*

10:50 PMSE 753. Introduction of gas-responsive units for gas separation and gas sensing. *H. Li, Y. Wang*

11:10 PMSE 754. Functional DNA/RNA nanostructures as drug delivery vehicles. *V. Valsangkar, A. Chandrasekaran, P. Haruehanongra, S. Mao, L. Zhuo, K. Halvorsen, J. Sheng*

SECTION B

Westin Boston Waterfront
Commonwealth Ballroom B

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

D. L. Heichel, M. Kong, *Presiding*

8:30 PMSE 755. Targeted drug delivery to cancer cells using synthetic bacteria. *M. Kong, K.S. Ramamurthi*

8:50 PMSE 756. Enzyme-responsive charge-reversal polymer mediated effective gene therapy for intraperitoneal tumors. *N. Qiu, Y. Shen*

9:10 PMSE 757. Design of polyplex micelles with phenylboronate ester cross-linking in the core exerting promoted gene transfection through responsiveness to intracellular pH and ATP concentration. *N. Yoshinaga, M. Naito, S. Uchida, H. Cabral, K. Osada, K. Kataoka*

9:30 PMSE 758. Antitumor effects of cisplatin-incorporating hyaluronan nanogel for malignant pleural mesothelioma. *Y. Amano, S. Ohta, C. Lee, T. Ito*

9:50 Intermission.

10:10 PMSE 759. Dendritic molecular nanospheres by living anionic polymerization. *J. He*

10:30 PMSE 760. Enzymatic oxidation of silk fibroin conjugates for preparation of bioadhesives. *D.L. Heichel, K.A. Burke*

10:50 PMSE 761. Super-elastic, fatigue resistant and anisotropic carbon aerogel for piezoresistive sensor. *M. Wang*

11:10 PMSE 762. Peptide-enriched nanoparticle carriers for the growth inhibition of antibiotic-resistant bacteria. *N. Bassous, T. Webster*

SECTION C

Westin Boston Waterfront
Stone

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

K. E. Broaders, P. He, *Presiding*

8:30 PMSE 763. Use of polymerized genipin for the stabilization of the collagen structure of animal hides. *J. Liu, E.M. Brown, C. Liu, K. Tang*

8:50 PMSE 764. Click chemistry-based delivery of nanoparticles. *H. Koo*

9:10 PMSE 765. Amine-functionalized polyethylene for improving compatibility between polyethylene and polyurethane. *W. Huang, N. Chiou, H. Kim, A. Broderick, N. Horstman*

9:30 PMSE 766. Processable boronate-modified polysaccharides through high stability boronic esters. *A.J. Manaster, E. Graham, K.E. Broaders*

9:50 Intermission.

10:10 PMSE 767. Bioconjugate materials of photochromic dihydroindolizine for biomedical applications. *D. Bagchi, S. Pal*

10:30 PMSE 768. Multicomponent supramolecular polymers as a platform for the design of modular glycoconjugate vaccines. *D. Straßburger, N. Stergiou, H. Kunz, E. Schmitt, P. Besenius*

10:50 PMSE 769. Amplification-by-polymerization for human genomic DNA detection. *P. He*

11:10 PMSE 770. Functional colon-specific delivery system with prebiotic activity and enhanced anticancer activity based on electrospinning. *P. Wen, Y. Wen, M. Zong, H. Wu*

SECTION D

Westin Boston Waterfront
Webster

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

S. Norris, Y. Wang, *Presiding*

8:30 PMSE 771. Mechanically robust photodegradable gelatin hydrogels for 3D cell culture and *in situ* mechanical modification. *S.C. Norris, S. Delgado, A.M. Kasko*

8:50 PMSE 772. Gradient polymer composites for optimum heat dissipation. *P. Marx, M. Marak, M. Gschwandl, P. Fuchs, T. Antretter, M. Pfost, W. Kern, F. Wiesbrock*

9:10 PMSE 773. Thermally-induced healing of electrical insulators. *S.R. Zavada, G. Sauti, K.L. Gordon, J.G. Smith, E.J. Siochi*

9:30 PMSE 774. Crafting mono-disperse bimetallic oxide nanoparticles via polymeric nanoreactors with enhanced lithium storage properties. *Z. Wang, S. Zhao, H. Zhang, Z. Lin*

9:50 Intermission.

10:10 PMSE 775. Hybrid hydrogel with improved mechanical properties as scaffold for delivery of full-thickness skin micrografts. *M. Ahumada, Y. Wang, E.J. Suuronen, E.I. Alarcon, W. Franco*

10:30 PMSE 776. Kinetics of swellable elastomers under constrained condition. *Y. Lou*

10:50 PMSE 777. Mussel-inspired reversible adhesives for underwater applications. *Z. Shafiq*

11:10 PMSE 778. Main-chain liquid crystalline networks synthesized by copper click chemistry. *Y. Wang, K.A. Burke*

SECTION E

Westin Boston Waterfront
Grand Ballroom E

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

S. Leguizamon, B. Motealleh, *Presiding*

8:30 PMSE 779. Novel hydantoin based polymeric microspheres for water purification. *A. Jayakrishnan, R. Rai*

8:50 PMSE 780. Synthesis and properties of new aromatic comb shaped poly(arylene ether sulfone) with different length of poly(phenyl sulfone side-chain). *B. Motealleh, J. Grosseohme, C.J. Cornelius*

9:10 PMSE 781. Strategies to reduce necking and drawdown defects in polymer melt extrusion film casting process. *D. Rokade, S. Chougale, H.V. Pol*

9:30 PMSE 782. Novel synthesis of holey reduced graphene oxide/polystyrene (HRGO/PS) nanocomposites by microwave irradiation method as cathode for high temperature lithium-ion batteries. *M. Arsalan, Y. Aldosari, F. Ahmed, Y. Mussa, E.H. Alsharaeh*

9:50 Intermission.

10:10 PMSE 783. Development of oligoethyleneglycol-based hydroxyl-functionalized click dendrimer for targeting neuroinflammation. *R. Sharma, A. Sharma, Z. Zhang, S. Kambampati, K. Liaw, J. Porterfield, S. kannan, R. Kannan*

10:30 PMSE 784. Development of immunochemotherapeutic nanoparticles for the treatment of triple negative breast cancer. *S. Berry, N. Chu, C. Bordeianu, Y.L. Colson, M.W. Grinstaff*

10:50 PMSE 785. Influence of melt blending on controlling of defects in polyolefin melt processing operations. *D. Rokade, S. Chougale, S. Joshi, H.V. Pol*

11:10 PMSE 786. Selective, information-directed dynamic covalent assembly of sequence-specific peptoids. *S. Leguizamon, T.F. Scott*

SECTION F

Westin Boston Waterfront
Grand Ballroom D

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

S. Abbina, S. Lang, *Presiding*

8:30 PMSE 787. Phenolphthalein-conjugated hydrogel formation under visible light irradiation for time-insensitive colorimetric biodetection. *S. Kim, H.D. Sikes*

8:50 PMSE 788. Hyaluronan conjugated nanopores for imaging inflammatory atherosclerotic plaques; Effects of nanopore shape on cellular binding and inflammatory responses. *S. HossainiNasr*

9:10 PMSE 789. pH responsive polymer microparticles for cytotoxic T lymphocyte epitope delivery for cancer immunotherapy. *S. Lang, H.W. Kavunja, S. Sungsuwan, Z. Yin, X. Huang*

9:30 PMSE 790. Novel design of pH-responsive polymer for targeting acidic microenvironment of tumor. *S. Muttaqien, T. Namoto, H. Takemoto, M. Matsui, K. Tomoda, N. Nishiyama*

9:50 Intermission.

10:10 PMSE 791. Biodegradable macromolecular iron chelating system for the treatment of iron overload. *S. Abbina, U. Abbasi, M. Kalathottukaren, J.N. Kizhakkedathu*

10:30 PMSE 792. Poly(astaxanthin) - an antimicrobial polymer for medical device coatings. *S. Weintraub, T. Shpigel, L. Harris, K. Thevissen, D. Lewitus*

10:50 PMSE 793. Scalable, low cost high refractive index polystyrene nanocomposites via *in situ* inverse vulcanized sulfur. *V. Wadi, B. Rozic, K. Haliq, V. Tzitzios, S. Al Hassan*

11:10 PMSE 794. Melanin-based composite materials for multifunctional applications. *K. Shanmuganathan, F. Ram, N. Pimpalkar*

SECTION G

Westin Boston Waterfront

Hale

Surface, Interface & Coating Materials

New Developments in Coating Industry

Cosponsored by COLL and POLY
Financially supported by PPG Industries, Inc.

Z. Cao, X. Yong, *Organizers*

S. Jiang, *Organizer, Presiding*

8:00 PMSE 795. Self-healing protective coatings: A practical assessment of the state of the art. *G.O. Wilson*

8:25 PMSE 796. Sol-gel based transparent functional coatings: From display to future mobility. *S. Lu, J. Shao, Z. Li*

8:50 PMSE 797. Development of spray-on SLIPS (slippery liquid infused porous surfaces) coatings for industrial cleaning applications. *J. D'Eon, G. Paink, T. Nahum, G. Tremelling, P. Kim*

9:05 PMSE 798. Novel acrylic epoxy hybrid technology and its application in freight container coatings. *J. Tang, Z. Fu, Y. Cai, C. Cwalina, B. Zheng, A. Hejl, M. Yu, D. Yun, K. Baikerikar, L. Procopio, D. Lindenmuth*

9:20 PMSE 799. Nanocomposite coatings for improving the performance of polyolefin films. *A.M. LaChance, L. Sun, B. Alnajjar*

9:35 PMSE 800. Polymer design for appearance in the automotive compact process painting. *S. Swarup*

9:50 Intermission.

10:00 PMSE 801. Scattering of light in colored coatings. *A. Van Dyk, V.V. Ginzburg*

10:25 PMSE 802. Developing high-performance, low-cost and rechargeable antimicrobial coatings for food safety applications. *M. Qiao, Q. Liu, R.W. Worobo, M. Ma*

10:40 PMSE 803. Microwave assisted surface functionalization of nylon fabric. *W. Kiratitanavit, Z. Xia, S. Yu, S. Kulkarni, R. Mosurkai, J. Kumar, R. Nagarajan*

10:55 PMSE 804. Interfacial and post treatment enhanced PEDOT thin film. *B. Li, K.H. Skorenko, H. Qiu, Z. Qing, L. Tong, W. Bernier, W.E. Jones*

11:10 PMSE 805. Preventing crude oil adhesion using fully waterborne coatings. *X. Wu, X. Xu, Z. Wang*

11:25 PMSE 806. Preparation of photo-curable metal-chelating copolymer coatings for antioxidant active packaging. *Z. Lin, Y. Zhang, C.K. Ober, J.M. Goddard*

SECTION H

Westin Boston Waterfront

Grand Ballroom B

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

X. Kuang, S. Liu, *Presiding*

8:30 PMSE 807. Self-assembled dual-targeted pectin-conjugated multi-arm-polyethylene glycol-dihydroartemisinin nanoparticles for anticancer combination therapy. *Y. Liu, M. Luo, Y. Zong, T. Kong, Z. Yang*

8:50 PMSE 808. Structure and formation mechanism of flow-induced alternating multilayer shish/kebab of polyethylene. *W. Fang, J. Li, S. Guo*

9:10 PMSE 809. Disordered peptide-peptide stapler for protein ligation both *in vivo* and *in vitro*. *W. Zhang*

9:30 PMSE 810. Grayscale 3D printing of widely tunable mechanical gradient multi-material assisted by two-stage curing. *X. Kuang, J. Wu, H.J. Qi*

9:50 Intermission.

10:10 PMSE 811. Competitive affinity release for long term delivery of antibodies from hydrogels. *V. Huynh, R.G. Wylie*

10:30 PMSE 812. Development and antimicrobial evaluation of genetically engineered protein-based/essential oil composites. *D. Gomes, A. da Costa, A.M. Pereira, M. Casal, R. Machado*

10:50 PMSE 813. Micro- and nano-fibrous matrices synthesized via interfacial tetrazine ligation. *S. Liu, J.M. Fox, X. Jia*

SECTION I

Westin Boston Waterfront

Burroughs

General Papers & New Concepts in Polymeric Materials

E. Harth, *Organizer*

K. Dutta, I. C. Tanrikulu, *Presiding*

8:30 PMSE 814. Novel biodegradable drug-loaded films for the prevention of lung tumor recurrence. *C. Bordeianu, D. Mahvi, C. Raut, Y.L. Colson, M.W. Grinstaff*

8:50 PMSE 815. Templated self-assembly of a covalent polymer network for intracellular protein delivery and traceless release. *K. Dutta, J. Zhuang, S. Thayumanavan*

9:10 PMSE 816. Thermo-responsive bottlebrush polymers by a novel grafting-onto strategy based on radical coupling and atom transfer radical polymerization. *L. Li, K. Jln, X. Chen, J.M. Torkelson*

9:30 PMSE 817. Synthesis and properties of block copolymer anion exchange membranes with long flexible side chains. *W.R. Khan, A. Herrera, A. Venkatachalam, C.J. Cornelius*

9:50 Intermission.

10:10 PMSE 818. Self-healing, highly stretchable and self-adhesive hydrogels. *X. Xu, X. Wu, Z. Wang*

10:30 PMSE 819. Dentinogenic self-assembling peptide hydrogels for pulpal tissue regeneration. *P. Nguyen, W. Gao, S. Patel, B. Sarkar, S. Weiner, E. Shimizu, V.A. Kumar*

10:50 PMSE 820. Synthetic collagens through symmetric self-assembly of small peptides. *I.C. Tanrikulu, L. Dang, A. Forticaux, B.D. Olsen, S. Jin, R.T. Raines*

PROF

Division of Professional Relations

R. Libby, *Program Chair*

BUSINESS MEETINGS:

Business Meeting, 3:00 PM: Mon

SUNDAY MORNING

SECTION A

Aloft Boston Seaport

Mann 1/2

Women of Color in the Academy: Empirical Studies & Models of Success

Cosponsored by CHED and WCC

L. M. Watkins, L. Winfield, *Organizers*

G. Thomas, Z. S. Wilson, *Organizers, Presiding*

8:30 PROF Introductory Remarks.

8:35 PROF 1. ADVANCE-ENG success through strategic formal and informal networks for women of color (WOC) engineering faculty. *C.S. Grant, J. DeCuir-Gunby, J. Yen, E. Riskin, C. Horner-Devine, J. Ivy, C. Carrigan*

9:00 PROF 2. Texas A&M University ADVANCE Scholar Program. *S.J. Yennello, B. Pettit, C. Stanley, J. Vaid*

9:25 PROF 3. Sister outsider: Advancing women faculty in engineering and technology at historically black colleges and universities. *F.M. Nave, R.L. Williams*

9:50 PROF 4. An advocates and allies initiative: Faculty leaders as directors of diversity and inclusion. *C.L. Fraser, G. Fraser, P. Norris, K. Feltault, J. McLaughlin, C. Mershon, D. Mincarelli*

10:15 PROF 5. ACS Women chemists of color: Just like hopes springing high. *G. Thomas*

10:40 PROF Intermission.

10:55 PROF 6. Mentoring still matters: Lessons learned from the mentoring component of the Jackson State University ADVANCE Project. *D.L. Wheaton, L.A. Moore*

11:20 PROF 7. Women in STEM (WiSTEM) and Women in Engineering - STEM (WiE-STEM) at Spelman College. *L. Winfield*

11:45 PROF 8. Dismantling and navigating institutional barriers for women of color in STEM using collective wisdom. *M. Corneille, A. Lee, S. Allen*

12:10 PROF 9. Inclusive work-life balance policies. *Z.S. Wilson*

12:35 PROF Concluding Remarks.

Chemistry Teachers Day Program

Sponsored by CHED, Cosponsored by PROF

Honor Symposium for Dr. Leonard Mausner

Sponsored by NUCL, Cosponsored by PROF

Merck Research Award Symposium

Sponsored by WCC, Cosponsored by ANYL, COMP, MEDI and PROF

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Informal STEM Education: Innovation & Collaboration

Sponsored by CHED, Cosponsored by CCA, CPRC and PROF

Eastman Chemical Student Award in Applied Polymer Science

Sponsored by PMSE, Cosponsored by PROF

SUNDAY AFTERNOON

SECTION A

Aloft Boston Seaport

Mann 1/2

Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in honor of Barbara Belmont

Cosponsored by CMA, PRES⁺ and WCC

M. Morris, *Organizer, Presiding*

1:30 PROF Introductory Remarks.

1:35 PROF 10. Creating a welcoming environment for everyone. *M. Crawford*

1:50 PROF 11. My LGBTQ+ journey to living authentically and unashamedly. *D. Barrett*

2:05 PROF Intermission.

2:20 PROF 12. Our students need different mentors today than we needed back then. How can we be those mentors? *N. Williams*

2:35 PROF 13. Lessons learned from a mentorless job search. *K. Trenshaw*

2:50 PROF Introductory Remarks.

2:55 PROF 14. Surpassing advocacy: Gaining momentum through mentoring the LGBTQ+ STEM community. *B.L. Belmont*

3:10 PROF Concluding Remarks.

Moving the Safety Values of the ACS Forward

Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS⁺, CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB

Chemical Angel Network: Chemists Investing in Chemical Companies

Sponsored by BMGT, Cosponsored by PROF and SCHB⁺

Founders' Award

Sponsored by TOXI, Cosponsored by PROF

Intellectual Property Basics for Chemical Businesses

Sponsored by SCHB, Cosponsored by CHAL and PROF

PROF/SCHB

Awards Session

ACS Award for Creative Invention

Sponsored by MEDI, Cosponsored by PROF

Chemistry Teachers Day Program

Sponsored by CHED, Cosponsored by PROF

Informal STEM Education: Innovation & Collaboration

Sponsored by CHED, Cosponsored by CCA, CPRC and PROF

SUNDAY EVENING

Entrepreneurs' Poster Session

Sponsored by SCHB, Cosponsored by PROF

MONDAY MORNING

SECTION A

Aloft Boston Seaport
Mann 1/2

How to Get Your 1st Industrial Job

Cosponsored by CHED, CTA and YCC
M. Grandbois, *Organizer*T. Shaw, *Organizer, Presiding*

9:30 PROF Introductory Remarks.

9:35 PROF 15. Panel discussion & networking.

M. Grandbois

12:05 PROF Concluding Remarks.

Developments in Pharmaceutical Patent Law

Sponsored by CHAL, Cosponsored by PROF

Growing with Project SEED: 50 years and 10,000-Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINP, COLL, ENFL, ENV, HIST, I&EC, ORGN, PROF and SCHB

Science Diplomacy & Chemistry Education

The Middle East

Sponsored by CHED, Cosponsored by IAC and PROF

Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Andrew Herring

Sponsored by ENFL, Cosponsored by PROF

Colloid & Surface Chemistry in Industry:

Applications & Career Opportunities

Sponsored by COLL, Cosponsored by PROF

MONDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Mann 1/2

TRIO & Chemistry

Cosponsored by CHED, MAC, WCC and YCC

J. M. Iriarte-Gross, A. Lolinco, *Organizers, Presiding*

1:00 PROF Introductory Remarks.

1:10 PROF 16. Upward bound in chemistry. *J.M. Iriarte-Gross*1:40 PROF 17. Charting success with support: A sojourn through the TRIO pipeline. *A. Lolinco*2:00 PROF 18. Supplemental instruction, Trio and chemistry. *M. Crawford*

2:30 PROF Intermission.

2:45 PROF 19. From Project SEED to McNair Scholar to PhD. *F. Minter*3:15 PROF 20. Navigating higher ed (and beyond!) without a roadmap. *J.M. Morrison*3:45 PROF 21. From mentee to mentor: A journey with the Ronald E. McNair Scholars Program. *R.M. Burks*4:15 PROF 22. Value of TRIO programs to contributing to diversity in STEM. *E.A. Nalley*

4:45 PROF Concluding Remarks.

Francis P. Garvan-John M. Olin Medal Symposium in Honor of Valerie Kuck

Sponsored by WCC, Cosponsored by BMGT and PROF

Eminent Scientist Lecture & Luncheon with Dr. JoAnne Stubbe

Sponsored by SOCED, Cosponsored by PROF

Science Diplomacy & Chemistry Education

The Middle East & Beyond

Sponsored by CHED, Cosponsored by IAC and PROF

Energy & Fuels Storch Award in Fuel Science:

Symposium in honor of Andrew Herring

Sponsored by ENFL, Cosponsored by PROF

Showcasing Emerging Investigators: A Symposium by the RSC Environmental Science Journals

Sponsored by ENVR, Cosponsored by ENVR and PROF

Colloid & Surface Chemistry in Industry:

Applications & Career Opportunities

Sponsored by COLL, Cosponsored by PROF

MONDAY EVENING

SECTION A

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

R. Libby, *Organizer*

8:00 – 10:00

1, 6. See previous listings.

25-26, 28, 30, 35, 37, 39, 46-47, 49-50. See subsequent listings.

TUESDAY MORNING

SECTION A

Aloft Boston Seaport
Mann 1

Broadening Participation in STEM: Empirical Studies & Models of Success

Improving Participation through Programmatic & Curricular Efforts

Cosponsored by CHED, MAC and WCC

G. Thomas, L. M. Watkins, Z. S. Wilson, *Organizers*L. Winfield, *Organizer, Presiding*

8:00 PROF 23. An e-mentorship model for broadening

participation in STEM degree programs among

undergraduate and graduate students. *J.L. Wendt*

8:20 PROF 24. LSAMP bridge to the doctorate: Strategic

Advancement of Rising Scholars (STARS). *C. Mattos*8:40 PROF 25. Statewide University of Hawaii community college collaborative project: NSF LSAMP bridge to the baccalaureate (B2B): Strategic transfer alliance for minority participation (STAMP). *M. Bautista*9:00 PROF 26. Promotion of Underrepresented Minorities in Academic STEM (PUMA-STEM): Alliance building with high schools, colleges, and industry partners. *C.S. Reigstad, C.N. Anderson, V. Govindaswamy, E.M. Mellgren, C. Zona*

9:20 PROF 27. Improving outcomes in mathematics and chemistry towards a better groundwork of students for future STEM careers: The UPR-Rio Piedras NIH MARC experience.

*N.M. Carballeira, O. Quesada*9:40 PROF 28. Implementation of A Peer-Led Team Learning and course-based undergraduate research in general biology and general chemistry. *M. Van Stry, M. Ude, F. Gaber, D. Sklensky*

10:00 PROF 29. Science in the community: Advancing teaching and research with community collaboration.

L.E. Agwaramgbo

10:20 PROF 30. NanoHu: A successful model for preparing under-represented groups for engagement in STEM fields.

*M.O. Claville*10:40 PROF 31. DREAM STEM: Driving research, entrepreneurship, and academics through mastering STEM. *C.R. Jackson*11:00 PROF 32. Hinds Community College- Utica Campus: Establishing a cohesive community college STEM institutional transformation academy. *M. Shears, N. Gardner, J. Townes*11:20 PROF 33. Implementation of a STEM student success program to improve the retention and graduation of STEM students. *C. Walton*11:40 PROF 34. Introducing computational chemistry and computational biology for undergraduates towards updating curriculum. *T. Dinadayalane*

Awards Session

Sponsored by MEDI, Cosponsored by PROF

HIST Award Symposium Honoring David Lewis

Sponsored by HIST, Cosponsored by PROF

I&EC Graduate Student Awards Symposium

Sponsored by I&EC, Cosponsored by PROF

Financial & Business Formation Strategies for Start-Ups & Chemical-Related Businesses

Sponsored by SCHB, Cosponsored by BMGT[†] and PROF

Mom the Chemistry Professor

Sponsored by WCC, Cosponsored by PROF

Bioconjugate Chemistry Lectureship & Award: Symposium in honor of Wolfgang Parak

Sponsored by PMSE, Cosponsored by PROF

Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Andrew Herring

Sponsored by ENFL, Cosponsored by PROF

Young Scientist/JAFC Best Paper Awards

Sponsored by AGFD, Cosponsored by PROF

Roy W. Tess Award: Symposium in honor of

Christopher Bowman

Sponsored by PMSE, Cosponsored by PROF

TUESDAY AFTERNOON

SECTION A

Aloft Boston Seaport
Mann 1

Broadening Participation in STEM: Empirical Studies & Models of Success

Improving Participation through Research & Partnerships

Cosponsored by CHED, MAC and WCC

L. M. Watkins, Z. S. Wilson, L. Winfield, *Organizers*G. Thomas, *Organizer, Presiding*

1:00 PROF 35. Role of the MSEIP grant in the success

of STEM undergraduate research at Queensborough

Community College. *P.D. Svaronos*

1:20 PROF 36. The impact of a national student research conference in STEM: Preparing tomorrow's global workforce.

*I.R. Wagstaff, Y. George, T. Clayton*1:40 PROF 37. MARC U*STAR Program at University of Maryland, Baltimore County (UMBC). *P. Robinson*

2:00 PROF 38. ReBUILDetroit: A cross-institutional partnership to diversify the biomedical workforce.

*F. McIntee, A. Mathur, K. Snyder*2:20 PROF 39. NIH MARC USTAR program: Preparing nontraditional students for PhD programs from an urban, non-research intensive, commuter campus. *R.B. Church, J. Hibdon, D. Bishga, E. Stajkovic*2:40 PROF 40. University of the Virgin Islands: A comprehensive approach to retention, persistence, and research training. *Y.S. Brandy, C. McKayle, S. Romano, R. Stolz, T. Turner, N. Monrose, A. Sanchez, R. Berkeley*3:00 PROF 41. Formulate an effective international research collaboration at HBCU. *W. Lou, G. Zhou, T. Rockward, F. Nave, H. Fan*3:20 PROF 42. Broadening participation in STEM at the University of California, Merced. *H.P. Hrtachian*3:40 PROF 43. Increasing the quantity and quality of underrepresented minorities with BS degrees in STEM: The Georgia-Alabama Louis Stokes alliance for minority participation program. *C. Ingram*3:40 PROF 44. NIGMS-RISE program at Medgar Evers College – an opportunity for underrepresented minority students to a career pathway to Ph.D. in biomedical research. *M.U. Patwary*4:00 PROF 45. Broadening participation of diverse STEM scholars with grant funded programs. *C.J. Foley*

Mom the Chemistry Professor

Sponsored by WCC, Cosponsored by PROF

HIST Award Symposium Honoring David Lewis

Sponsored by HIST, Cosponsored by PROF

PHYS Awards Symposium

Sponsored by PHYS, Cosponsored by PROF

Langmuir Lectures, NanoLetters Award Lecture, ACS Materials & Interfaces Award Lecture

Sponsored by COLL, Cosponsored by PROF

Energy & Fuels Storch Award in Fuel Science: Symposium in honor of Andrew Herring

Sponsored by ENFL, Cosponsored by PROF

AGFD Award Symposium in honor of Dr. Sevim Erhan

Sponsored by AGFD, Cosponsored by AGRO and PROF

Roy W. Tess Award: Symposium in honor of Christopher Bowman

Sponsored by PMSE, Cosponsored by PROF

C. Ellen Genter Environmental Graduate Student Award Symposium

Sponsored by ENVR, Cosponsored by PROF

2018 Energy & Fuels Joint Award for Excellence in Publication: Symposium in honor of Fateme RezaeiSponsored by ENFL, Cosponsored by PROF and WCC[†]**TUESDAY EVENING****Wiley Computers in Chemistry Outstanding Postdoc Award**

Sponsored by COMP, Cosponsored by PROF

WEDNESDAY MORNING**Non-Traditional Careers in Chemistry**

Sponsored by CHAL, Cosponsored by PROF, SCHB, WCC and YCC

Henkel Award for Outstanding Graduate Research in Polymer Chemistry: Symposium in honor of Aleksandr V. ZhukhovitskiySponsored by PMSE, Cosponsored by CHED[†], POLY[†] and PROF**WEDNESDAY AFTERNOON****SECTION A***Aloft Boston Seaport
Mann 1***Exploring the "Nano": Leveraging Unique Abilities**L. W. Hoffman, *Organizer, Presiding***1:00 PROF** Introductory Remarks.**1:05 PROF 46.** Celebrating a diversity, giving chemist a unique perspective. *A.E. Norton, T. Green, A. Ostrowski***1:25 PROF 47.** The unseen advantage: The alternative perspective of a blind computational chemist. *M.S. Minkara***1:45 PROF 48.** Blind scientists, a historical perspective on contributions and innovations. *C.A. Supala***2:05 PROF** Intermission.**2:25 PROF 49.** NanoConnections: Leveraging the power of networking to cultivate access for chemists with different abilities. *C. Hamann***2:45 PROF 50.** It's the little things that count: How small modifications can make a person with a disability a great teammate. *A.E. Neybert, R.W. Schwenz***3:05 PROF 51.** From sound to light. *M.R. Cummings***3:25 PROF 52.** Visual impairments in the modern research environment. *S.M. Kilyanek***3:45 PROF** Concluding Remarks.**WEDNESDAY EVENING****POLY/PMSE Plenary & Awards Event**Sponsored by POLY, Cosponsored by PMSE[†] and PROF**THURSDAY MORNING****Legal Aspects of Agriculture, Agrochemicals & Agribusiness**

Sponsored by AGRO, Cosponsored by AGFD and PROF

SCHB**Division of Small Chemical Businesses***J. Sabol, Program Chair***OTHER SYMPOSIA OF INTEREST:**Chemistry Librarians of the Future (*see CINF, Tue*)

Industrial Research of Chemists Local to the New

England Region (*see I&EC, Sun*)New Advances in 3D Nanoprinting (*see MPPG, Thu*)**SOCIAL EVENTS:**

Coffee, 8:00 AM: Sun, Mon

Coffee, 8:30 AM: Tue

Luncheon, 11:30 AM: Tue

Reception, 6:00 PM: Mon

BUSINESS MEETINGS:

Executive Committee Meeting, 6:00 PM: Sat

SUNDAY MORNING**SECTION A***Aloft Boston Seaport
Mann 3***Open House with Division of Small Chemical Businesses**Financially supported by Saul Ewing Arnstein & Lehr, LLP
P. C. Lauro, *Organizer, Presiding***9:00** Introductory Remarks.**9:05 SCHB 1.** ACS Division of Small Chemical Businesses: Member benefits. *P. Lauro, G.W. Ruger***9:25 SCHB 2.** ACS Division of Small Chemical Businesses: Programming opportunities. *J.E. Sabol***9:45 SCHB 3.** Tool-kit for the entrepreneur: Resources to guide the successful start-up of a small chemical business. *P. Lauro, M. Chorghade, J. Brooks***10:05** Panel Discussion.**10:50** Discussion and Networking.**Moving the Safety Values of the ACS Forward**Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS[†], CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB**SUNDAY AFTERNOON****SECTION A***Aloft Boston Seaport
Mann 3***Intellectual Property Basics for Chemical Businesses**

Cosponsored by CHAL and PROF

Financially supported by Osha Liang LLP

J. L. Bryant, *Organizer*T. Siepmann, *Organizer, Presiding***1:00** Introductory Remarks.**1:05 SCHB 4.** To patent or not to patent, that is the question. *R. Micheletti***1:45 SCHB 5.** US patent filing strategies for small chemical businesses. *C.A. Burton***2:25 SCHB 6.** Strategies for seeking a European patent. *G.M. Dahlen***3:05** Intermission.**3:20 SCHB 7.** Strategies for challenging US patent rights. *K. Laurence***4:00 SCHB 8.** Nuts and bolts of trademark selection and protection in the US. *K.B. Drake***4:40** Concluding Remarks.**Moving the Safety Values of the ACS Forward**Sponsored by PRES, Cosponsored by AGFD, ANYL, BIOL, BMGT, CA, CARB, CCS, CHAS[†], CINF, COLL, CPT, ENFL, ENVR, I&EC, ORGN, PROF and SCHB**Chemical Angel Network: Chemists Investing in Chemical Companies**Sponsored by BMGT, Cosponsored by PROF and SCHB[†]**SUNDAY EVENING****SECTION A***Boston Convention & Exhibition Center
Exhibit Hall B2/C***Entrepreneurs' Poster Session**

Cosponsored by PROF

G. W. Ruger, *Organizer***6:00 – 8:00****SCHB 9.** SCHB at the vanguard of innovation in the chemical community. *P.C. Lauro, G.W. Ruger, J.E. Sabol, M. Chorghade, A. Kantak, D.J. Deutsch, J.L. MacLachlan, N.A. Vaidya, C.A. Burton, J.L. Bryant, T. Siepmann***SCHB 10.** Chemical Angel Network chemists investing in chemical companies. *S.S. White, M. Vreeke, J.C. Giordan***SCHB 11.** Collaborations Pharmaceuticals, Inc.: A small company focused on rare and neglected disease drug discovery. *K.M. Zorn, T.R. Lane, M.A. Hupcey, S. Ekins***SCHB 12.** Science Rendezvous: A way to boost industry, academic, and NGO collaboration. *J.R. Berk, G.W. Ruger***MONDAY MORNING****SECTION A***Aloft Boston Seaport
Mann 3***Innovation & Commercialization in the Chemical Sector**

Cosponsored by INOR

Financially supported by Saul Ewing Arnstein & Lehr LLP
J. E. Sabol, *Organizer*P. C. Lauro, *Organizer, Presiding***8:30** Introductory Remarks.**8:35 SCHB 13.** Business of chemistry and the chemistry of business: The 50-year view from Strem Chemicals. *E.S. Honig***9:05 SCHB 14.** Biologically inspired engineering: From discovery to technological innovation. *J. Aizenberg***9:35 SCHB 15.** Gold particles as a medical device for acne treatment. *D. Paithankar***10:05** Intermission.**10:20 SCHB 16.** Spherical nucleic acids and their use in treatment of disease. *D. Gijlhann***10:50 SCHB 17.** Creating one of analytical chemistry's most powerful tools...and then came the hard part. *P.J. Wyatt, G. Wyatt***Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers**

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Growing with Project SEED: 50 years and 10,000+ Students

Sponsored by PRES, Cosponsored by AGFD, AGRO, ANYL, BIOL, BMGT, CARB, CINF, COLL, ENFL, ENVR, HIST, I&EC, ORGN, PROF and SCHB

MONDAY AFTERNOON**SECTION A***Aloft Boston Seaport
Mann 3***In Memory of Arthur Obermayer, Co-Founder of the Small Business Innovative Research (SBIR) Grant Programs**J. N. Driscoll, *Organizer, Presiding***1:00** Introductory Remarks.**1:10 SCHB 18.** Early history of the US Small Business Innovation Research (SBIR) program. *J.N. Driscoll***1:30 SCHB 19.** Observations on Arthur Obermayer. *T. Hill***1:50 SCHB 20.** Arthur Obermayer: A gentleman and scholar of credit and renown. *M. Chorghade***2:10 SCHB 21.** Pathways to commercialization success leveraging the SBIR Program. *K. Mahmud***2:30 SCHB 22.** ecosVC provides advanced STEM students with training to conduct research through the Lens of Research and the Lens of the Market[®]. *J.C. Giordan***2:50 SCHB 23.** SBIR programs past & present include the importance of Obermayer to the program. *J.N. Driscoll***3:10** Concluding Remarks.**Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers**

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

MONDAY EVENING**SECTION A**

Boston Convention & Exhibition Center
Exhibit Hall B2/C

Sci-Mix

G. W. Ruger, *Organizer*

8:00 – 10:00

10-12. See previous listings.

29. See subsequent listings.

TUESDAY MORNING**SECTION A**

Aloft Boston Seaport
Mann 3

Financial & Business Formation Strategies for Start-Ups & Chemical-Related Businesses

Cosponsored by BMGT⁺ and PROF

J. L. Bryant, T. Siepmann, *Organizers*

J. C. Giordan, *Organizer, Presiding*

9:00 Introductory Remarks.

9:15 Session Overview.

9:25 SCHB 24. Chemical due diligence in chemical business formation and acquisition. *R.G. Hanshaw*

9:35 SCHB 25. Effective advocates collaborative: Unique approach to fund raising and business development. *M. Jalbert*

M. Jalbert

9:45 SCHB 26. Contracts and intellectual property in business start-up and acquisition. *J. Brougher*

9:55 SCHB 27. Value of Flexible Capital Fund, L3C in financial and business formation. *J. St. Onge*

10:05 SCHB 28. Value the Chemical Angel Network brings to financial and business formation strategies for start-ups and chemical related businesses. *M. Vreeke*

10:15 Panel Discussion.

10:55 Concluding Remarks.

11:05 Office Hours with Presenters.

TUESDAY AFTERNOON**SECTION A**

Aloft Boston Seaport
Mann 3

Catalyzing Collaborations from Ideas to Commercial Development

M. Chorghade, *Organizer*

A. H. Berks, *Organizer, Presiding*

1:30 Introductory Remarks.

1:35 SCHB 29. Protect your business with intellectual property. *A.H. Berks*

2:00 SCHB 30. Community-based biotech incubators in New York and Connecticut: Elab NYC and ABCT. *M. Howard*

2:25 SCHB 31. Techno-economic modeling for new technology development. *C. Burk*

2:50 SCHB 32. Design, development and coming to market of a novel, robust and rugged solid state FTIR spectrometer. *J. Speed*

3:15 Intermission.

3:30 SCHB 33. Startup of a specialty chemical company-Polnox. *A. Chohli*

A. Chohli

3:55 SCHB 34. Collaborative innovation strategy fostering natural product research and development. *T. Polgar*

4:20 SCHB 35. Glycopeptide biologics through total synthesis: Steps toward commercial viability. *W.E. Walkowicz*

W.E. Walkowicz

4:45 Concluding Remarks.

Protecting Your Ideas in the Chemical Arts

Sponsored by CHAL, Cosponsored by SCHB

WEDNESDAY MORNING**Non-Traditional Careers in Chemistry**

Sponsored by CHAL, Cosponsored by PROF, SCHB, WCC and YCC

CEI**Committee on Environmental Improvement**

C. Middlecamp, *Program Chair*

SUNDAY MORNING**SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal**

Sponsored by ENVR, Cosponsored by CEI

SUNDAY AFTERNOON**SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal**

Sponsored by ENVR, Cosponsored by CEI

MONDAY MORNING**Environmental Health & Safety of Emerging Chemicals & Technologies**

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and CEI

Citizen Science & Chemistry

Sponsored by ENVR, Cosponsored by CEI and CHED

SETAC-ENVR Joint Symposium: Legacy & Emerging Per- & Polyfluoroalkyl Substances: Identification, Fate, Transport, Exposure & Removal

Sponsored by ENVR, Cosponsored by CEI

Synthetic Biology: The State of the Science

Sponsored by ENVR, Cosponsored by CEI⁺, COMSCI and PRES

MONDAY AFTERNOON**Environmental Health & Safety of Emerging Chemicals & Technologies**

Sponsored by ENVR, Cosponsored by AGRO⁺, ANYL and CEI

Undergraduate Research Posters**Green Chemistry & Sustainability**

Sponsored by CHED, Cosponsored by CEI and SOCED

Microplastic Pollution: Sources, Sinks & Solutions

Sponsored by ENVR, Cosponsored by ANYL and CEI

Synthetic Biology: The State of the Science

Sponsored by ENVR, Cosponsored by CEI⁺, COMSCI and PRES

TUESDAY MORNING**Citizens First! Using Real-World Contexts for Engaging Students in Learning Chemistry**

Sponsored by CHED, Cosponsored by CEI

Green Chemistry & the Environment

Sponsored by ENVR, Cosponsored by CEI

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

TUESDAY AFTERNOON**Citizens First! Using Real-World Contexts for Engaging Students in Learning Chemistry**

Sponsored by CHED, Cosponsored by CEI

Green Chemistry & the Environment

Sponsored by ENVR, Cosponsored by CEI

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

WEDNESDAY MORNING**Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond**

Sponsored by CHED, Cosponsored by CEI

Green Chemistry & the Environment

Sponsored by ENVR, Cosponsored by CEI

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

WEDNESDAY AFTERNOON**Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond**

Sponsored by CHED, Cosponsored by CEI and IAC

Advanced Materials for Energy & the Environment: Design, Fabrication & Application

Sponsored by ENVR, Cosponsored by CEI and ENFL

THURSDAY MORNING**Advanced Materials for Energy & the Environment: Design, Fabrication & Application**

Sponsored by ENVR, Cosponsored by CEI and ENFL

THURSDAY AFTERNOON**Advanced Materials for Energy & the Environment: Design, Fabrication & Application**

Sponsored by ENVR, Cosponsored by CEI and ENFL

IAC**International Activities Committee**

J. Breffke, *Program Chair*

SUNDAY AFTERNOON**Chemistry as a Second Language: Strategies for Global Scientific Communication**

Sponsored by YCC, Cosponsored by CPRC, IAC and PREST⁺

MONDAY MORNING**Science Diplomacy & Chemistry Education****The Middle East**

Sponsored by CHED, Cosponsored by IAC and PROF

MONDAY AFTERNOON**Science Diplomacy & Chemistry Education****The Middle East & Beyond**

Sponsored by CHED, Cosponsored by IAC and PROF

TUESDAY AFTERNOON**Celebrating the Success of an Exchange Program for German & American Chemistry Students**

Sponsored by CHED, Cosponsored by IAC and YCC

WEDNESDAY AFTERNOON**Green Chemistry Theory & Practice: Nanoscience, Nanotechnology & Beyond**

Sponsored by CHED, Cosponsored by CEI and IAC

CMA

Committee on Minority Affairs

J. Sarquis and R. Joseph, *Program Chairs*

SUNDAY AFTERNOON

Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in honor of Barbara BelmontSponsored by PROF, Cosponsored by CMA, PRES⁺ and WCC

MONDAY MORNING

Emerging Challenges in the Era of Drinking Water Insecurity & Inequality & the Search for Low-Cost Solutions

Sponsored by ENVR, Cosponsored by CMA

ComSci

Committee on Science

M. Fisher, *Program Chair*

MONDAY MORNING

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Synthetic Biology: The State of the ScienceSponsored by ENVR, Cosponsored by CEI⁺, COMSCI and PRES

MONDAY AFTERNOON

Ion Transport at the Nanoscale: Research & Capabilities at the DOE's Nano Centers

Sponsored by PRES, Cosponsored by ANYL, COLL, COMSCI, ENFL, ENVR, GEOC and SCHB

Synthetic Biology: The State of the ScienceSponsored by ENVR, Cosponsored by CEI⁺, COMSCI and PRES

TUESDAY MORNING

SECTION A

*Boston Convention & Exhibition Center
Room 257B***DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis****Flow Synthesis**Cosponsored by ANYL, COMP, MEDI and ORGN
A. Fischer, C. J. Welch, *Organizers, Presiding***8:30** Introductory Remarks.**8:35 ComSci 1.** Innovating chemistry at the Defense Advanced Research Projects Agency (DARPA). *A. Fischer***9:05 ComSci 2.** Automated system for knowledge-based continuous organic synthesis: Reaction platform for chemical synthesis. *D.A. Thomas, C.W. Coley, J. Lummiss, J.N. Jaworski, V.L. Schultz, R.W. Hicklin, I. Rogers, A. Hart, T.F. Jamison, K.F. Jensen***9:35 ComSci 3.** SynFini: An automated synthetic chemistry platform. *N. Collins, M. Deleo, Y. Garfu, D. Krieger, J. Lim, P.B. Madrid, J.P. Malerich, S. Mallya, K. Rucker, D. Stout, J. Sztet, V. Vu***10:05** Intermission.**10:20 ComSci 4.** Digitization of multi-step organic synthesis in reactionware for on demand pharmaceuticals. *L. Cronin, P. Kitson, J. Francoia, S. Zaleskiy***10:50** Panel Discussion.

TUESDAY AFTERNOON

SECTION A

*Boston Convention & Exhibition Center
Room 257B***DARPA Make-It Program: Automating Small Molecule Route Design, Optimization & Synthesis****Reaction Planning & Screening**Cosponsored by ANYL, COMP, MEDI and ORGN
A. Fischer, C. J. Welch, *Organizers, Presiding***1:30** Introductory Remarks.**1:35 ComSci 5.** Computational design and experimental validation of synthetic routes created by Chematica.*B. Grzybowski***2:05 ComSci 6.** SynRoute: Synthetic route planning software that combines rapid search and machine learning. *M. Latendresse, P.B. Madrid, M. Krummenacker, J.P. Malerich, P. Karp, N. Collins***2:35 ComSci 7.** Automated system for knowledge-based continuous organic synthesis: Data-driven pathway design and validation. *C.W. Coley, P.P. Plehiers, W. Jin, H. Gao, Y. Wang, J. Schreck, K.J. Bishop, R. Barzilay, T. Jaakkola, W.H. Green, K.F. Jensen***3:05** Intermission.**3:20 ComSci 8.** High-Throughput Chemistry Platform (HTCP) for reaction screening and expanding chemical reaction space. *A.B. Beeler, S. Schaus, E. Kolaczyk, J.A. Porco, D. Fraser, J. Zhen, J. Yaojin***3:50 ComSci 9.** Make-it and screen-it using high-throughput experiments at Purdue University. *Z. Nagy, C. Ferreira, B. Loren, D. Thompson, R.G. Cooks***4:20** Panel Discussion.**SOCED**

Society Committee on Education

A. Keirstead, *Program Chair*

EVENTS:

The Road not Taken, 9:00 AM: Sun
Networking 101, 1:00 PM: Sun
It is Easy Being Green, 9:00 AM: Mon
The Boston Tea Party, 10:30 PM: Mon

SUNDAY AFTERNOON

Undergraduate Research Papers

Sponsored by CHED, Cosponsored by SOCED

MONDAY AFTERNOON

SECTION A

*Seaport Boston Hotel
Plaza Ballroom A/B***Eminent Scientist Lecture & Luncheon with Dr. JoAnne Stubbe**

Cosponsored by PROF

A. E. Keirstead, *Organizer, Presiding***12:00** 1. The road less traveled: For love of detection and discovery. *J. Stubbe***Undergraduate Research Posters****Agricultural & Food Chemistry**

Sponsored by CHED, Cosponsored by AGFD and SOCED

Undergraduate Research Posters**Analytical Chemistry**

Sponsored by CHED, Cosponsored by ANYL and SOCED

Undergraduate Research Posters**Biochemistry**

Sponsored by CHED, Cosponsored by BIOL and SOCED

Undergraduate Research Posters**Biotechnology**

Sponsored by CHED, Cosponsored by BIOT and SOCED

Undergraduate Research Posters

Chemical Education

Sponsored by CHED, Cosponsored by SOCED

Undergraduate Research Posters**Colloid & Surface Chemistry**

Sponsored by CHED, Cosponsored by COLL and SOCED

Undergraduate Research Posters**Computational Chemistry**

Sponsored by CHED, Cosponsored by COMP and SOCED

Undergraduate Research Posters**Environmental Chemistry**

Sponsored by CHED, Cosponsored by ENVR and SOCED

Undergraduate Research Posters**Green Chemistry & Sustainability**

Sponsored by CHED, Cosponsored by CEI and SOCED

Undergraduate Research Posters**Inorganic Chemistry**

Sponsored by CHED, Cosponsored by INOR and SOCED

Undergraduate Research Posters**Medicinal Chemistry**

Sponsored by CHED, Cosponsored by MEDI and SOCED

Undergraduate Research Posters**Nanochemistry**

Sponsored by CHED, Cosponsored by SOCED

Undergraduate Research Posters**Organic Chemistry**

Sponsored by CHED, Cosponsored by SOCED

Undergraduate Research Posters**Physical Chemistry**

Sponsored by CHED, Cosponsored by SOCED

Undergraduate Research Posters**Polymer Chemistry**

Sponsored by CHED, Cosponsored by PMSE, POLY and SOCED

MONDAY EVENING

Successful Student Chapters

Sponsored by CHED, Cosponsored by SOCED

TUESDAY MORNING

Financial & Business Formation Strategies for Start-Ups & Chemical-Related BusinessesSponsored by SCHB, Cosponsored by BMGT⁺ and SOCED**CTA**

Committee on Technician Affairs

C. Libby, *Program Chair*

SUNDAY AFTERNOON

Industrial Research of Chemists Local to the New England Region

Sponsored by I&EC, Cosponsored by CTA

MONDAY MORNING

How to Get Your 1st Industrial Job

Sponsored by PROF, Cosponsored by CHED, CTA and YCC

WEDNESDAY MORNING

General Papers

Sponsored by I&EC, Cosponsored by CTA

CTA/WCC/YCC

Technical Achievements in Organic Chemistry

Sponsored by ORGN, Cosponsored by CTA

WEDNESDAY AFTERNOON

Technical Achievements in Organic Chemistry

Sponsored by ORGN, Cosponsored by CTA

WCC

Women Chemists Committee

R. Cole, Program Chair

OTHER SYMPOSIA OF INTEREST:

Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in Honor of Barbara Belmont (see PROF, Sun)

Journal of Polymer Science Innovation Award:

Symposium in Honor of Rachel O'Reilly (see PMSE, Sun)

Women of Color in the Academy: Empirical Studies & Models of Success (see PROF, Sun)

Women in Nanotechnology (see INOR, Mon)

Broadening Participation in STEM: Empirical Studies & Models of Success (see PROF, Tue)

2018 Energy & Fuels Joint Award for Excellence in Publication: Symposium in Honor of Fateme Rezaei (see ENFL, Tue)

SOCIAL EVENTS:

WCC Merck Luncheon (invite only), 12:00 PM: Sun
WCC Women in the Chemical Enterprise Breakfast, 7:30 AM: Mon

Women Chemists of Color Networking, 9:30 AM: Mon
Eli Lilly Poster Presentation, 11:00 AM: Tue
WCC Luncheon, 12:00 PM: Tue

BUSINESS MEETINGS:

WCC Committee Meeting (closed), 8:00 AM: Sat
WCC Just Cocktails, Open Meeting and WTCP Book Launch, 5:00 PM: Tue

SUNDAY MORNING

SECTION A

Westin Boston Waterfront
Marina Ballroom II

Merck Research Award Symposium

Cosponsored by ANYL, COMP, MEDI and PROF

A. M. Balija, Organizer

E. F. DiMauro, A. E. Weber, Presiding

8:25 Introductory Remarks.**8:30 WCC 1.** Synthetic entry into 3,5-dimethylorsellinic acid meroterpenoids. *M. Elkin, T.R. Newhouse***8:50 WCC 2.** Design, synthesis, and evaluation of highly potent linker-equipped analogs of spongistatin 1 for targeted delivery approaches. *M. Tekle-Smith, L. Suen, K. Williamson, J. Infantine, S. Reznik, P.S. Tanis, T. Casselman, D. Sackett, J.L. Leighton***9:10 WCC 3.** Aiming for ideality in the age of biomolecules.*J.N. deGruyter, K. Knouse, P.S. Baran***9:30 WCC 4.** Photoredox-mediated arylation of 1,4-dihydropyridine monosaccharides. *J.K. Matsui, A. Dumoulin, A. Gutierrez-Bonet, G.A. Molander***9:50 WCC 5.** Constructing interpretable computational models of protein dynamics using information theory and variance minimization. *B.E. Husic, K.A. McKiernan, H.K. Wayment-Steele, M.M. Sultan, V.S. Pande***10:10** Intermission.**10:20 WCC 6.** Analytical chemistry at Merck: The value of measurements. *P. Zhuang***11:00 WCC 7.** Photocontrolled cationic polymerization of vinyl ethers and its application in copolymer synthesis. *V. Kottisch, Q. Michaudel, B.P. Fors***11:20 WCC 8.** Venomous insulin molecules: A bioinspired approach for the treatment of diabetes. *M. Disotuar, X. Xiong, D.H. Chou***11:40 WCC 9.** In Vitro Reconstitution of native P450s activities enables total chemo-enzymatic syntheses of vancomycin aglycone variants. *C.C. Forneris, M. Seyedsayamdost***12:00** Concluding Remarks.

Women of Color in the Academy: Empirical Studies & Models of Success

Sponsored by PROF, Cosponsored by CHED and WCC

SUNDAY AFTERNOON

Importance of LGBTQ+ Role Models & Mentors in Chemical Sciences: A Symposium in honor of Barbara Belmont

Sponsored by PROF, Cosponsored by CMA, PRES⁺ and WCC

Journal of Polymer Science Innovation Award: Symposium in honor of Rachel O'Reilly

Sponsored by PMSE, Cosponsored by WCC

MONDAY MORNING

Women in Nanotechnology

Sponsored by INOR, Cosponsored by WCC

MONDAY AFTERNOON

SECTION A

Sheraton Boston Hotel
Independence East

Francis P. Garvan–John M. Olin Medal Symposium in Honor of Valerie Kuck

Cosponsored by BMGT and PROF

K. M. Schulz, Organizer, Presiding

1:30 Introductory Remarks by K. Schulz.**1:40 WCC 10.** Val Kuck - 40+ years of ACS Governance - Leadership and self development. *J. Hayes***2:00 WCC 11.** Val: The woman, the myth, the legend.*C.T. Hunt***2:20 WCC 12.** Ongoing creative leadership. *L.K. Krannich***2:40 WCC 13.** Valerie Kuck: Scientist, mentor and mom.*E. Reichmanis***3:00** Intermission.**3:15 WCC 14.** Valerie Kuck: A champion of diversity.*M.S. Jacobs, M.K. Lester***3:35 WCC 15.** An advocate for parity in academic chemistry and biochemistry departments. *C.E. Marzabadi***3:55 WCC 16.** Val Kuck: Mentor, coach, consultant, advocate, champion and friend. *A.F. Charlebois***4:15** Concluding Remarks by V. Kuck.

TRIO & Chemistry

Sponsored by PROF, Cosponsored by CHED, MAC, WCC and YCC

Women in Nanotechnology

Sponsored by INOR, Cosponsored by WCC

TUESDAY MORNING

SECTION A

Sheraton Boston Hotel
Liberty C

Mom the Chemistry Professor

Cosponsored by PROF

K. A. Wozniak, Organizer

C. E. Marzabadi, Presiding

9:00 WCC 17. An introduction to "Mom the Chemistry Professor." *K.A. Wozniak, A.F. Charlebois, R.S. Cole, C.E. Marzabadi, G.H. Webster***9:30 WCC 18.** "Finding Rhythm," Is there really such a thing as work-life balance? *L. Winfield***9:50 WCC 19.** Equilibrium and stress: Balancing one marriage, a 'two-body' problem, and three children. *S. Bretz***10:10 WCC 20.** Conquering the unconquerable.*A.C. Bryant-Friedrich***10:30** Intermission.**10:45 WCC 21.** My circus: Please note that I have had no formal training in juggling. *A.F. Charlebois***11:05 WCC 22.** Ready made family. *M. Crawford***11:25 WCC 23.** The Golden Ticket for real! Mom & chemistry professor in 7+ community colleges: tenure and NSF and GRC chair. *E.M. Dorland***11:45** Concluding remarks.

Broadening Participation in STEM: Empirical Studies & Models of Success

Improving Participation through Programmatic & Curricular Efforts

Sponsored by PROF, Cosponsored by CHED, MAC and WCC

TUESDAY AFTERNOON

SECTION A

Sheraton Boston Hotel
Liberty C

Mom the Chemistry Professor

Cosponsored by PROF

K. A. Wozniak, Organizer, Presiding

1:30 Introductory Remarks.**1:35 WCC 24.** How motherhood shaped my professorship. *J.C. Ingram***1:55 WCC 25.** I'm a gene: Destined for a career in the sciences. *M. Kanipes-Spinks***2:15 WCC 26.** On breastfeeding, supramolecular chemistry, and long commutes: life as an associate professor, wife, and busy mother of three. *M. Levine***2:35 WCC 27.** Mother and chemist: Every pitfall is an opportunity to rise with a new beginning. *I. Montes***2:55** Intermission.**3:10 WCC 28.** Mom the chemistry professor goes into university administration: Rebalancing the equation for success. *S.O. Obare***3:30 WCC 29.** Definitely not the original plan....*P.A. Redden***3:50 WCC 30.** Remarkable, delightful, awesome: It will change your life, not overnight but over time. *S.J. Yennello***4:10** Panel Discussion.

Broadening Participation in STEM: Empirical Studies & Models of Success

Improving Participation through Research & Partnerships

Sponsored by PROF, Cosponsored by CHED, MAC and WCC

2018 Energy & Fuels Joint Award for Excellence in Publication: Symposium in honor of Fateme RezaeiSponsored by ENFL, Cosponsored by PROF and WCC⁺**3:50 WCC 30.** Remarkable, delightful, awesome: It will change your life, not overnight but over time. *S.J. Yennello***4:10** Panel Discussion.

WEDNESDAY MORNING

Non-Traditional Careers in Chemistry

Sponsored by CHAL, Cosponsored by PROF, SCHB, WCC and YCC

YCC

Younger Chemists Committee

D. Williams, M. Brann and K. Heroux, Program Chairs

SUNDAY MORNING

Student Organized Symposia: Supramolecular Analytical Chemistry

Sponsored by ANYL, Cosponsored by YCC

SUNDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Marina Ballroom II

Chemistry as a Second Language: Strategies for Global Scientific Communication

Cosponsored by CPRC, IAC and PRES⁺

J. J. O'Neil, P. Wangtrakuldee, Organizers

C. Dunne, Organizer, Presiding

1:00 Introductory Remarks.**1:05 YCC 1.** Developing effective English communication skills as an international chemist. *J. Stec***1:30 YCC 2.** Communicating through publications: The written word and beyond. *J. Hoy***1:55 YCC 3.** Kimchi, chemistry, & communication.*M. Grandbois***2:20** Intermission.**2:30 YCC 4.** Poster presentation: Tips, tricks & tools.*E. Lenci***2:55 YCC 5.** Trust me, I'm an editor: The representation of science in the media. *A. Brownell*

3:20 Concluding Remarks & Networking.

Student Organized Symposia: Supramolecular Analytical Chemistry

Sponsored by ANYL, Cosponsored by YCC

Student Organized Symposia: Preparative Mass Spectrometry: Recent Advances & Applications

Sponsored by ANYL, Cosponsored by YCC

MONDAY MORNING

SECTION A

Westin Boston Waterfront
Marina Ballroom II

Artificial Intelligence & its Impact on The Chemical Enterprise

Cosponsored by BMGT and PRES

M. Grandbois, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 YCC 6. The chemistry of electronic materials: Small and perfect. *C.K. Ober*

9:35 YCC 7. Big chemistry data. *B. Smith*

10:05 YCC 8. Transition metal chemical space exploration: Artificial intelligence for first-principles design. *H.J. Kulik*

10:35 Intermission.

10:45 YCC 9. Pro-active mapping of chemical reactivity with ultra-highthroughput chemistry. *S. Dreher*

11:15 YCC 10. HelixAI: A voice-first platform for scientific research and discovery. *D. Rhodes, J. Rhodes*

11:45 YCC 11. Inventive machines and the future of innovation in the chemical arts. *R. Abbott*

12:15 Concluding Remarks.

How to Get Your 1st Industrial Job

Sponsored by PROF, Cosponsored by CHED, CTA and YCC

MONDAY AFTERNOON

TRIO & Chemistry

Sponsored by PROF, Cosponsored by CHED, MAC, WCC and YCC

TUESDAY MORNING

SECTION A

Westin Boston Waterfront
Marina Ballroom II

Best of Both Worlds: Green Chemistry in Academia & Industry

R. Borg, A. Gnann, S. Gokalp, D. Graf Stillfried, S. Ross, *Organizers*

M. Ward, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 YCC 12. Twenty years of theory and practice.

J.C. Warner, P.T. Anastas

9:35 YCC 13. Introducing green nanomedicine: Advancing human health without hurting the environment. *D. Garcia, T. Webster*

10:15 Intermission.

10:25 YCC 14. What is an appropriate academic business model to drive commercialization of sustainable technology? *R.D. Rogers*

11:05 YCC 15. Providing students with 21st century skills: Green chemistry as a path for connecting industry and academia to communities and schools through cross-sector partnerships. *A.S. Cannon*

TUESDAY AFTERNOON

SECTION A

Westin Boston Waterfront
Marina Ballroom II

Best of Both Worlds: Green Chemistry in Academia & Industry

R. Borg, A. Gnann, S. Gokalp, D. Graf Stillfried, S. Ross, *Organizers*

M. Ward, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 YCC 16. Green chemistry at Pfizer: Collaborations with academia and practical applications for more sustainable processes. *J. Magano*

1:45 YCC 17. Surfactant chemistry: From an environmental innovation to an enabling technology. *S.V. Plummer*

2:25 YCC 18. Academic-industry interfaces in green chemistry: Perspectives from an industrial green chemist. *B.W. Cue*

3:05 Intermission.

3:15 YCC 19. Local and global chemistry initiatives for young chemists. *L. Ferrins, A. Gnann, N.J. O'Neil*

3:55 Panel Discussion.

4:30 Concluding Remarks.

Celebrating the Success of an Exchange Program for German & American Chemistry Students

Sponsored by CHED, Cosponsored by IAC and YCC

WEDNESDAY MORNING

SECTION A

Westin Boston Waterfront
Marina Ballroom II

Chemistry in Space & Past, Present & Future

Cosponsored by ANYL

F. Darvas, R. F. Hirsch, *Organizers*

A. E. Pavlath, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 YCC 20. Experiences and challenges with remote controlled chemical instruments in orbit. *Y. Yamin*

8:55 YCC 21. Establishing the basis for continuous liquid-liquid separation and extraction in space. *A. Adamo*

9:15 YCC 22. Marangoni convection at a propagating reactive interface in microgravity. *D. Horvath*

9:35 YCC 23. On the perspectives of flow processes for space chemistry. *S. Loebbecke*

9:55 Intermission.

10:15 YCC 24. Using nanomaterials for insulation in space.

R.V. Jones, F. Darvas

10:35 YCC 25. Introduction of CASIS and the Space Chemistry Program. *K. Savin*

10:55 YCC 26. Chemistry of Mars. *L.B. Roberson*

11:15 Concluding Remarks and Networking.

Non-Traditional Careers in Chemistry

Sponsored by CHAL, Cosponsored by PROF, SCHB, WCC and YCC

Student Organized Symposia: New Paradigms in Nanoscale Electrocatalysis

Sponsored by ANYL, Cosponsored by YCC

WEDNESDAY AFTERNOON

Student Organized Symposia: Probing Biological Systems with Nonlinear Optics

Advances in NLO Imaging

Sponsored by ANYL, Cosponsored by YCC

Next Generation Instrumentations & Measurement in Space Exploration

Sponsored by ANYL, Cosponsored by YCC

Student Organized Symposia: New Mass Spectrometry Methods for Polymer Analysis

Sponsored by ANYL, Cosponsored by YCC

THURSDAY MORNING

Student Organized Symposia: Enabling Spectroscopies for Nanomaterial Applications: Energy Conversion to Therapeutics

Sponsored by ANYL, Cosponsored by YCC

THURSDAY AFTERNOON

Student Organized Symposia: Enabling Spectroscopies for Nanomaterial Applications: Energy Conversion to Therapeutics

Sponsored by ANYL, Cosponsored by YCC

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Abbondante, S.	POLY	104	Abriola, L.	ENVR	665	Adlaf, K.J.	AGFD	12
Abbott, J.	AGRO	156	Abriola, L.	GEOC	70	Adrion, D.M.	COLL	298
Abbott, L.	CHED	421	Abrol, R.	CHED	345	Adronov, A.	PMSE	707
Abbott, R.	YCC	11	Abruna, H.D.	PMSE	107	Adronov, A.	POLY	387
Abboud, K.A.	INOR	106	Abshear, A.	CINF	64	Adsetts, J.	ANYL	342
Abboud, K.A.	INOR	507	Abshire, J.	AGRO	372	Adutwum, L.	PMSE	307
Abboud, K.A.	INOR	533	Abudanash, D.	ENVR	603	Advincula, R.C.	PMSE	17
Abdala, P.	CATL	68	Abuhimd, H.	ENFL	551	Advincula, R.C.	PMSE	311
Abdallahman, M.	NUCL	14	Abu Lail, N.I.	ENVR	255	Advincula, R.C.	PMSE	387
Abdelaal, E.M.	AGFD	94	Abularrage, N.	BIOL	215	Advincula, R.C.	PMSE	677
Abd-El-Aziz, A.S.	POLY	391	Abul-Hajja, Y.	CARB	113	Advincula, R.C.	POLY	235
Abdelghani, M.	PMSE	358	Abulwerdi, F.	MEDI	404	Advincula, R.C.	POLY	555
Abdelkader, A.	ENFL	220	Abu Siba, M.M.	INOR	487	Adzic, R.R.	INOR	50
Abdellaoui, S.	CATL	360	Abusultan, M.A.	MEDI	105	Aerts, E.	AGRO	310
Abdel-Maksoud, M.S.	MEDI	90	Acauan, L.	COLL	42	Afira, N.A.	ENVR	628
Abdelmohsen, L.	POLY	489	Acerbo, A.S.	GEOC	38	Afriyie, L.	POLY	541
Abdelmola, F.I.	PMSE	581	Achab, A.	MEDI	24	Afshari, M.	POLY	456
Abdelraheem, E.	ORGN	200	Achab, A.	MEDI	342	Afzal, D.	ANYL	184
Abdelraheem, W.	ENVR	480	Acharekar, N.	MEDI	109	Afzal, D.	ANYL	185
Abdelraheem, W.	ENVR	578	Acharya, A.	PHYS	417	Afzal, M.	COMP	300
Abdelrahman, O.	CATL	226	Acharya, K.	ENVR	235	Afzal, M.	COMP	427
Abdelrahman, O.	CATL	489	Acharya, P.	ENFL	117	Aga, D.S.	AGRO	299
Abdelrahman, O.A.	CATL	10	Acharya, P.	AGFD	343	Aga, D.S.	AGRO	323
Abdelrasool, M.K.	CHED	346	Acher, E.	NUCL	54	Aga, D.S.	AGRO	348
Abdelsayed, V.	CATL	321	Achillas, D.	ENFL	306	Aga, D.S.	AGRO	351
Abdelwahab, W.	ANYL	540	Achmon, Y.	AGRO	279	Aga, D.S.	ENVR	726
Abdolmaleki, M.K.	INOR	312	Achola, L.	COLL	660	Aga, D.S.	TOXI	19
Abdulkhalek, J.	ENVR	54	Achola, L.	INOR	483	Agah, M.	ANYL	466
Abdullah, M.	ANYL	56	Achorn, O.B.	ENVR	549	Agampodi, V.A.	MEDI	86
Abdullah, M.	INOR	310	Achorn, O.B.	PHYS	271	Agapie, T.	INOR	25
Abdul-Moqueet, M.	COLL	510	Aci-Sèche, S.	COMP	432	Agar, J.N.	COMP	381
Abdul-Moqueet, M.	INOR	309	Acosta, A.L.	ENVR	566	Agarabi, C.	CARB	58
Abdul Rahim, A.	ENVR	358	Acosta Amado, R.	AGRO	239	Agarwal, M.	ANYL	558
Abdulrazzaq, H.	CATL	359	Acosta Amado, R.	AGRO	241	Agarwal, S.	CATL	435
Abdur-Rashid, K.	INOR	179	Acosta Amado, R.	AGRO	339	Agarwal, V.	CATL	294
Abe, K.	ANYL	204	Acosta Amado, R.	AGRO	340	Agatemor, C.	POLY	391
Abedin, A.	CATL	134	Acosta Amado, R.	AGRO	341	Agbay, A.J.	CARB	108
Abedin, A.	ENFL	98	Acosta Amado, R.	AGRO	342	Agbeworvi, G.	INOR	438
Abedin, R.	ENVR	320	Acosta-Gutierrez, S.	COMP	293	Ageeli, A.	MEDI	404
Abel, A.	POLY	557	Acosta-Gutierrez, S.	COMP	468	Aggarwal, A.	INOR	735
Abel, B.A.	PMSE	377	Acrey, B.	ENVR	91	Aggarwal, M.B.	BIOL	129
Abel, R.	COMP	28	Ad, O.	BIOL	263	Aggrawal, M.	AGFD	325
Abel, R.	COMP	243	Ada, E.	ENVR	560	Aggrawal, M.	ENVR	739
Abel, R.	COMP	345	Adachi, S.	PHYS	110	Aghjeh, M.	PMSE	87
Abel, R.	COMP	487	Adam, D.	AGRO	121	Agirre, A.	PMSE	622
Abel, R.	MEDI	308	Adam, D.	AGRO	301	Agogo, L.	CATL	204
Abela, R.	PHYS	217	Adam, I.J.	COMP	369	Agostini, F.	PHYS	69
Abell, L.M.	MEDI	56	Adamczyk, K.	PHYS	8	Agrafiotis, D.K.	COMP	109
Abendroth, J.M.	ANYL	201	Adamo, A.	YCC	21	Agrawal, D.	ENFL	307
Abendroth, J.M.	MPPG	70	Adamou, P.	ENVR	415	Agrawal, N.	MEDI	126
Abenojar, E.C.	COLL	261	Adamou, P.	ENVR	415	Agrawal, S.	ANYL	186
Abi-Akar, F.	AGRO	58	Adams, A.T.	MEDI	54	Agrawal, S.	ANYL	186
Abi-Akar, F.	AGRO	231	Adams, D.	PMSE	7	Aguado, B.A.	PMSE	169
Abid, A.	COLL	15	Adams, J.	CATL	422	Aguiar, L.	ENVR	572
Abidi, I.H.	MPPG	43	Adams, S.	I&EC	13	Aguiar, O.	CHED	420
Abii, T.A.	ANYL	526	Adams, S.R.	AGRO	385	Aguila, B.	I&EC	33
Abild-Pedersen, F.	CATL	62	Adams, S.R.	CINF	16	Aguilar, G.	CHED	266
Abild-Pedersen, F.	CATL	377	Adamson, D.	PMSE	106	Aguilar, J.C.	ANYL	134
Abney, C.W.	I&EC	33	Adamson, D.	PMSE	451	Aguilar, X.A.	COLL	174
Abney, K.K.	MEDI	143	Adamson, D.	PMSE	716	Aguilar, X.A.	COLL	504
Abou-Ali, E.	MEDI	182	Adamson, D.H.	COLL	11	Aguilera, E.Y.	ORGN	120
Abolhasani, M.	ORGN	261	Adamson, D.H.	ENVR	531	Aguilera, E.Y.	ORGN	555
Abolhasani, M.	ORGN	408	Adamson, D.H.	INOR	305	Aguirre, C.	CHED	170
Abongwa, M.	AGRO	277	Adamson, D.H.	PMSE	315	Aguirre, J.D.	CHED	60
Abou-Gharbia, M.	MEDI	65	Adamson, D.H.	PMSE	747	Aguirre, J.D.	CHED	86
Abou Khalil, Z.	ENVR	759	Adan, D.	AGFD	45	Aguirre, J.	POLY	320
Abourahma, H.	POLY	437	Addison, E.	ENVR	20	Aguirrezabal, I.	CATL	486
Abousleiman, Y.	ENFL	48	Addo-Mensah, A.K.	ENVR	666	Agwaramgbo, L.E.	CHED	225
Abplanalp, M.	PHYS	85	Addo-Mensah, A.K.	MEDI	429	Agwaramgbo, L.E.	PROF	29
			Adedosu, H.O.	ENVR	654	Aharon, C.	ORGN	57

Ahlers, P.	POLY	472	Akimov, A.V.	ENFL	337	Alegre-Requena, J.	CATL	363
Ahlinder, L.	ANYL	239	Akin, F.A.	POLY	527	Aleo, L.	CHED	141
Ahmad, A.A.	INOR	462	Akin, D.	ANYL	108	Alequin-Torres, D.	ORGN	367
Ahmad, A.	ENVR	581	Akintayo, C.O.	POLY	518	Alexander, C.	PMSE	336
Ahmad, I.	POLY	445	Akintayo, E.T.	AGFD	320	Alexander, J.	NUCL	17
Ahmad, S.	COMP	146	Akintayo, E.T.	POLY	518	Alexander-Dann, B.	TOXI	104
Ahmadi, M.	ORGN	197	Akinwale, A.D.	MEDI	203	Alexandratos, S.	ANYL	464
Ahmed, A.K.	ENVR	819	Akira, T.	ORGN	526	Alexandratos, S.	COLL	348
Ahmed, A.	ENVR	770	Akiyoshi, K.	POLY	288	Alexandre Moreira, M.	MEDI	334
Ahmed, F.	ENFL	551	Akkachairin, B.	ORGN	584	Alexandrov, V.	COMP	575
Ahmed, F.	PMSE	782	Akkaraju, G.	COLL	452	Alexandrov, V.	ENFL	350
Ahmed, M.	POLY	176	Akkiraju, K.	CATL	50	Alexandrova, A.	CATL	58
Ahmed, S.E.	INOR	487	Akkutlu, I.	GEOC	7	Alexandrova, A.	PHYS	241
Ahmed, S.	POLY	345	Akoka, S.	ANYL	287	Alexandrova, A.	PHYS	244
Ahmed, T.	MEDI	89	Aksyuk, V.	ANYL	542	Alexandrowicz, G.	PHYS	133
Ahmed, T.	INOR	95	Aktan, B.	POLY	80	Alexanian, E.J.	ORGN	26
Ahmed Adil, E.	CELL	12	Akula, S.	ORGN	415	Alexanian, E.J.	ORGN	331
Ahmed Khan, M.	ORGN	659	Alaamery, M.	PMSE	536	Alexanian, E.J.	ORGN	346
Ahn, D.	POLY	51	Al-Abed, S.R.	ENVR	175	Alexanian, E.J.	POLY	603
Ahn, H.	ENVR	236	Al-Abed, S.R.	ENVR	355	Alfafi, N.	ENVR	664
Ahn, J.	MEDI	111	Al-Abed, Y.	MEDI	64	Alfaraidi, A.M.	CHED	242
Ahn, K.	AGRO	253	Alabi, C.A.	PMSE	80	Alferiev, I.S.	COLL	468
Ahn, K.	AGRO	302	Alabi, C.A.	PMSE	380	Alfieri, J.G.	AGRO	117
Ahn, S.	ENFL	260	Alabi, C.A.	POLY	488	Alfieri, J.G.	AGRO	232
Ahn, S.	INOR	428	Alabugin, A.	ENFL	552	Alfifi, F.	ANYL	546
Ahn, W.	PHYS	381	Alabugin, I.	COMP	229	Alfonzo, E.	ORGN	167
Ahn, Y.	ENVR	341	Alabugin, I.	ORGN	195	Alford, A.	COLL	785
Ahuja, V.	MEDI	364	Alaghemandi, M.	COMP	377	Algamal, M.A.	ORGN	654
Ahumada, M.	PMSE	775	Alahakoon, S.B.	PMSE	537	Alghamdi, E.A.	COMP	394
Ai, C.	COLL	421	Alahmari, A.	BIOL	317	Alghamdi, F.S.	ENFL	542
Ai, H.	BIOL	171	Alahmed, A.	PMSE	7	Al-Ghoul, H.	AGRO	107
Ai, K.	AGFD	83	Alakurtti, S.	POLY	393	Al-Ghoul, H.	ANYL	100
Ai, Y.	MEDI	351	Al-Ali, M.A.	POLY	349	Algieri, C.	POLY	607
Ai, Y.	MEDI	355	Al Alshaiikh, A.	POLY	364	Al-Hada, M.	CATL	16
Ai, Y.	ENVR	631	Alam, B.	PHYS	519	Alhadmoul, S.	INOR	492
Aich, N.	ENVR	139	Alam, M.	ENFL	331	Alhalabi, Z.	CINF	27
Aichele, C.	COLL	417	Alam, M.R.	COLL	708	Alhallaf, W.	AGFD	88
Aichele, C.	COLL	666	Alam, M.	BIOL	130	Alharbi, M.	BIOL	229
Aida, T.	POLY	375	Alam, M.	BIOL	208	Alhasan, A.	PMSE	536
Aida, T.	POLY	548	Alam, S.	CELL	1	Al-Hashimi, M.	CATL	302
Aiduk, M.	BIOL	245	Alam, T.M.	PRES	28	Al-Hashimi, M.	POLY	103
Aiduk, M.	CHED	193	Alamgir, A.	INOR	143	Al-Hashimi, M.	POLY	333
Aihemaiti, A.	GEOC	14	Alamgir, A.	INOR	463	Al-Hashimi, M.	POLY	415
Aikens, C.M.	COMP	161	Alamgir, A.	INOR	706	Al-Hashimi, M.	POLY	428
Aikens, C.M.	MPPG	57	Alamgir, M.	ANYL	150	Al-Hashimi, M.	POLY	435
Ailawar, S.	ENFL	116	Alamgir, S.	INOR	505	Al Hassan, S.	CATL	201
Ailles, L.	ANYL	60	Alamir, W.	INOR	497	Al Hassan, S.	CATL	509
Aimone, L.D.	MEDI	358	Alamri, H.	PMSE	467	Al Hassan, S.	ENFL	278
Ainembabazi, D.	I&EC	17	Alanazi, A.	CATL	318	Al Hassan, S.	ENFL	430
Aitbekova, A.	CATL	11	Al Anazi, A.	ENVR	438	Al Hassan, S.	INOR	736
Aitbekova, A.	CATL	62	Alanzi, A.Z.	ENFL	542	Al Hassan, S.	INOR	737
Aiube, C.M.	CATL	311	Alarcon, E.I.	PMSE	775	Al Hassan, S.	PMSE	511
Aizenberg, J.	PMSE	188	Alarcón-Correa, M.	COLL	490	Al Hassan, S.	PMSE	534
Aizenberg, J.	PMSE	725	Alatis, J.	INOR	743	Al Hassan, S.	PMSE	793
Aizenberg, J.	POLY	497	Alatash, N.	INOR	570	Alhwaige, A.A.	ENVR	591
Aizenberg, J.	POLY	513	Alayyaf, A.A.	INOR	167	Ali, A.	GEOC	67
Aizenberg, J.	SCHB	14	Alba, M.	PHYS	298	Ali, A.	MEDI	123
Ajamian, A.	COMP	379	Albadri, A.	ENFL	542	Ali, A.	MEDI	177
Ajamian, A.	COMP	380	Albalawi, A.	PHYS	466	Ali, A.	MEDI	233
Ajamian, A.	MEDI	176	Albalawi, F.	ENVR	568	Ali, B.	ORGN	573
Ajamian, A.	MEDI	198	Albalawi, S.S.	ENVR	720	Ali, E.M.	MEDI	90
Ajamian, A.	MEDI	199	Al-Baldawi, M.	POLY	230	Ali, F.	CHED	80
Ajamian, A.	MEDI	201	Albert, D.H.	MEDI	22	Ali, J.	ENVR	163
Ajayan, P.M.	ENVR	332	Alberts, E.	COLL	269	Ali, M.	ENVR	581
Ajayan, P.M.	ENVR	338	Alberts, E.	ENVR	476	Ali, M.R.	BIOL	74
Ajayan, V.	PMSE	145	Alborn, H.T.	AGRO	216	Ali, M.R.	COLL	529
Ajdary, R.	CELL	37	Alborn, H.T.	AGRO	219	Ali, O.	ENFL	308
Ajbade, J.O.	ENVR	654	Albrecht, S.	ORGN	390	Ali, R.	MEDI	374
Ajibola, A.A.	INOR	642	Albrecht-Schmitt, T.E.	NUCL	52	Ali, S.	COMP	262
Ajian, C.	ENVR	643	Albright, V.	ORGN	618	Ali, S.A.	PHYS	486
Akaji, K.	MEDI	78	Albright, H.	COLL	157	Ali, S.M.	BIOL	55
Akam, E.A.	INOR	57	Albrithen, H.	ENFL	542	Alim, M.	POLY	82
Akamatsu, M.	COLL	176	Albu, T.V.	CHED	177	Alim, M.	POLY	573
Akamatsu, M.	COLL	670	Alcaraz, A.	ANYL	129	Alimohammadi, F.	COLL	428
Akasaka, T.	ORGN	535	Al-Dahhan, M.	I&EC	21	Alimohammadi, F.	COLL	685
Akatay, C.	CATL	26	Al Dalakta, A.	COMP	313	Aliper, A.	COMP	96
Akcay Ogur, F.	POLY	527	Aldaz, C.	COMP	282	Alireza, K.	MEDI	393
Akdağ, A.	ORGN	426	Aldaz, C.	PHYS	351	Alisaraie, L.	MEDI	205
Akdağ, A.	ORGN	589	Aldemir Dikici, B.	PMSE	583	Alismail, H.	COLL	703
Akdağ, A.	ORGN	196	Aldemir Dikici, B.	PMSE	587	Alismail, H.	MEDI	200
Akella, L.B.	COMP	110	Alden, S.	ORGN	204	Al-Issa, Y.	CHED	302
Akens, M.	ANYL	449	Aldongarov, A.	ENVR	635	Alivisatos, P.	ANYL	1
Akgul, A.	CARB	110	Aldongarov, A.	PMSE	517	Alivisatos, P.	COLL	84
Akgul, A.	CARB	110	Aldosari, O.F.	ENFL	543	Alivisatos, P.	COLL	384
Akhade, S.	ENFL	498	Aldosari, Y.	PMSE	782	Aliyu, A.A.	INOR	642
Akhade, S.A.	CATL	9	Aldred, N.	PMSE	647	Aliyu, A.	AGFD	93
Akhade, S.A.	CATL	365	Aldrich, C.C.	MEDI	224	Alizadehmojarad, A.	COLL	759
Akhade, S.A.	CATL	386	Aldrich, L.N.	CHED	295	Aljhdali, A.	ORGN	103
Akhmetova, I.	ORGN	215	Aldrich, L.N.	ORGN	202	Aljhdli, M.	ORGN	402
Akhtar, M.	INOR	25	Aldrich, L.N.	ORGN	388	Alkak, Z.	CHED	351
Akhter, S.S.	COLL	329	Aldrich, L.N.	ORGN	389	Alkekha, D.	PMSE	732
Akimoto, G.	ORGN	135	Aldworth, J.	AGRO	331	Alkhadra, M.A.	PMSE	194
Akimov, A.V.	COMP	409	Aldworth, J.	AGRO	332	Al-Khawaja, A.	MEDI	137
Akimov, A.V.	COMP	447	Alegre Requena, J.	ORGN	191	Al-Khouja, A.	COLL	784

Alkhurayef, N.	ENVR	664	Alsharaeh, E.H.	PMSE	782	Amirbahman, A.	ENVR	484
Al-Lami, H.S.	BIOL	54	Alsharif, N.	COLL	82	Amirkulova, D.B.	COMP	422
Allbritton, N.L.	ANYL	53	Alsharif, N.	COLL	552	Amis, E.J.	PMSE	432
Allec, S.I.	COMP	2	Alsharif, N.	PMSE	133	Amitsuka, T.	AGFD	217
Allehyani, I.H.	ENFL	542	Alshehri, I.	POLY	521	Ammann, M.	COLL	155
Allen, A.	CHED	225	Alshehry, R.	CARB	67	Ammar, U.M.	MEDI	90
Allen, D.	COLL	403	Alshehry, R.	MEDI	347	Amos, H.	ENVR	82
Allen, J.E.	INOR	595	Al Soubaihi, R.	CATL	56	Amos, J.	AGRO	50
Allen, J.L.	ENFL	351	Alston, J.R.	INOR	303	Amos, J.	AGRO	58
Allen, J.	ENFL	351	Alt, E.A.	POLY	156	Amos, J.	AGRO	353
Allen, K.N.	ANYL	122	Alt, H.R.	INOR	480	Ampomah, N.	COLL	262
Allen, K.M.	ORGN	599	Altabet, Y.	COMP	29	Amro, N.A.	COLL	117
Allen, M.J.	ENVR	105	Altaf, A.	CATL	512	Amsden, J.J.	ANYL	517
Allen, M.J.	INOR	158	Altaf, A.	INOR	61	Amundsen, T.	ENVR	179
Allen, M.J.	ORGN	166	Altaf, A.	INOR	62	Amundsen, T.	ENVR	304
Allen, N.	CHED	159	Altaf, A.	MEDI	386	Amundson, L.	COLL	640
Allen, N.	GEOC	32	Altammar, M.	ENFL	242	Amyes, T.L.	BIOL	93
Allen, R.	INOR	322	Alter, G.	CARB	74	An, B.	COLL	300
Allen, R.D.	POLY	594	Althahban, S.	CATL	25	An, B.	ENFL	282
Allen, S.	PROF	8	Altinbasak, I.	COLL	695	An, H.	CATL	325
Allen, T.W.	COMP	68	Altmaier, M.	NUCL	30	An, K.	CATL	273
Allen, W.J.	COMP	72	Altmaier, M.	NUCL	33	An, K.	ENFL	425
Allgayer, R.	ENVR	136	Altmaier, M.	NUCL	35	An, L.	ENFL	131
Allison, L.K.	PMSE	268	Altmaier, M.	NUCL	68	An, L.	POLY	295
Allodi, M.	PHYS	46	Altmaier, M.	NUCL	69	An, N.	CATL	251
Allouche, E.M.	ORGN	271	Altman, M.	MEDI	342	An, N.	ENVR	328
Allu, S.R.	ORGN	565	Altman, R.A.	BIOL	268	An, Q.	COMP	291
Allway, G.	ORGN	539	Altman, R.A.	ORGN	2	An, Q.	PHYS	184
Alm, M.	COLL	772	Altman, S.	CHED	255	An, S.	ANYL	542
Almahjob, A.B.	ENVR	591	Altman, P.	PHYS	547	An, S.	PMSE	544
Almalik, A.	PMSE	536	Altus, K.	INOR	278	An, S.	PMSE	552
Almalki, O.	INOR	734	Aluri, E.	INOR	523	An, T.	ENVR	477
Almammadov, T.	BIOL	168	Aluthgun Hewage, S.D.	ENVR	817	An, Y.	MEDI	54
Almanza, E.M.	CHED	43	Alvarado, S.	BIOL	36	Anagnostopoulos, V.	NUCL	37
Almanza, E.M.	CHED	249	Alvarado, T.	PMSE	74	Anagnostopoulos, V.	NUCL	74
Almarhoon, Z.	ENVR	664	Alvarado, W.	COMP	267	Anagu, T.	ORGN	185
Al-Marzoki, K.	COLL	720	Alvarenga, J.	PMSE	725	Anamimoghadam, O.	ORGN	422
Almasri, J.	MEDI	182	Alvarez, M.	CHED	205	Anamimoghadam, O.	ORGN	509
Al-Masri, Z.	CHED	64	Alvarez, N.	PMSE	478	Anamoah, C.	PMSE	684
Almatarneh, M.	COMP	470	Alvarez, P.J.	ENVR	5	Anand, J.	CHED	336
Almeida, J.	CHED	271	Alvarez, P.J.	ENVR	146	Anand, J.P.	MEDI	290
Almeqdadi, M.	COLL	787	Alvarez, P.J.	ENVR	307	Anand, N.K.	MEDI	274
Almer, J.	ENFL	406	Alvarez, P.J.	ENVR	308	Ananda, K.	COLL	670
Almirall, J.R.	ANYL	292	Alvarez, P.J.	ENVR	375	Ananth, N.	PHYS	332
Almohseni, H.A.	ORGN	520	Alvarez, P.J.	ENVR	608	Ananth, R.	COLL	729
Almohsin, A.	ENFL	427	Alvarez, P.J.	ENVR	699	Ananth, R.	PMSE	476
Almond, D.	ORGN	627	Alvarez-Ibarra, A.	COMP	219	Ananthkrishnan, R.	CATL	332
Al-Muallem, H.A.	INOR	25	Alves, M.A.	MEDI	334	Anarat-Cappillino, G.	INOR	606
Almutairi, M.	PMSE	536	Alves, S.	PHYS	431	Anasori, B.	COLL	685
Almutairi, A.	COLL	600	Alves, S.	PHYS	495	Anasori, B.	ENFL	83
Alnafisah, A.S.	PHYS	452	Alves, S.	MEDI	342	Anastas, P.T.	INOR	89
Alnajjar, B.	PMSE	799	Alves, V.M.	CINF	143	Anastas, P.T.	ORGN	471
Alnasser, F.	COLL	566	Alves Fernandes, J.	CATL	128	Anastas, P.T.	YCC	12
Alodan, S.A.	COLL	797	Alwaheeb, D.A.	INOR	184	An Cleave, C.	MEDI	195
Alom, M.	AGFD	251	Aly, Y.	ENVR	372	Anda, L.M.	CELL	70
Aloni, I.	MEDI	308	Alyamani, A.	ENFL	542	Anders, S.	POLY	407
Aloni, S.	PHYS	493	Alzaaqui, N.	COMP	354	Anders, S.	POLY	483
Aloni, S.	PHYS	544	Alzahrani, Y.A.	ENFL	542	Andersen, C.	CHED	166
Alonso, D.	AGFD	326	Alzate-Sanchez, D.M.	PMSE	1	Andersen, J.M.	ORGN	216
Alonso, D.	ENVR	89	Alzharani, A.A.	ENFL	220	Andersen, N.	MEDI	211
Alotaibi, M.H.	ENFL	542	Amadeo, P.A.	ORGN	115	Andersen, N.	MEDI	352
Alotaibi, M.H.	ENFL	543	Amadeo, P.A.	ORGN	506	Andersen, R.A.	INOR	420
Alotaibi, O.	ORGN	143	Amador, C.	ENVR	448	Anderson, A.	CHED	31
Alotaibi, S.	INOR	99	Amagui, S.	CHED	132	Anderson, A.	AGRO	224
Al-Otaibi, R.L.	ENFL	543	Amal, R.	ENFL	75	Anderson, A.M.	INOR	749
Alothman, A.A.	ENVR	664	Amaly, N.	ANYL	95	Anderson, B.	AGRO	22
Alothman, A.A.	INOR	492	Amamiya, K.	ENVR	247	Anderson, B.D.	CHED	331
Alothman, G.	CHED	263	Amamiya, K.	GEOC	17	Anderson, C.N.	PROF	26
Aloysius, H.	MEDI	82	Aman, H.	INOR	392	Anderson, C.M.	BIOL	191
Alphonse, V.	PMSE	641	Amano, Y.	PMSE	758	Anderson, C.M.	CHED	45
Alpuche-Aviles, M.A.	ANYL	437	Amar, K.	COLL	335	Anderson, C.M.	INOR	449
Alpuche-Aviles, M.A.	ORGN	533	Amar, Y.	CINF	154	Anderson, D.G.	BIOL	136
Alqaeisoom, N.	MEDI	448	Amaro, S.G.	CHED	381	Anderson, D.G.	COLL	132
Al-Qaradawi, S.Y.	CHED	346	Amari, H.	PMSE	269	Anderson, E.	ORGN	290
Alqarni, L.	ANYL	135	Amasha, M.	ENVR	759	Anderson, E.E.	CATL	518
Alqubati, A.	PMSE	409	Amati, M.	CATL	16	Anderson, E.E.	POLY	447
Alrashdi, S.	COLL	293	Amato, J.C.	POLY	256	Anderson, G.	COMP	260
Alrasheed, A.	COLL	797	Amatucci, G.	ENFL	402	Anderson, J.	ORGN	257
Alrashidi, K.	INOR	501	Amatucci, G.	PHYS	114	Anderson, J.P.	CHED	397
Alrasyani, M.A.	ANYL	78	Amaudrut, J.	MEDI	10	Anderson, J.	COMP	263
Alrasyani, M.A.	PMSE	510	Ambigaipalan, P.	AGFD	227	Anderson, J.	MEDI	61
Alrehaili, O.	ENVR	489	Ambrogi, E.	ENVR	279	Anderson, K.	CHED	124
Alsaid, Y.	ENVR	143	Ambrogi, E.	ENVR	482	Anderson, L.	POLY	535
Al-Saidi, W.	PHYS	393	Ambrogi, E.	ENVR	485	Anderson, L.N.	COMP	472
Al Saihati, Z.	ENVR	670	Ameer, B.	CHED	10	Anderson, M.E.	COLL	292
Alsalmeh, A.M.	INOR	58	Amemiya, S.	ANYL	92	Anderson, M.E.	INOR	272
Alsamarah, A.	COMP	22	Amemiya, S.	ANYL	388	Anderson, M.O.	AGRO	297
Alsaiee, A.	ENVR	463	Amer, M.R.	COLL	797	Anderson, N.C.	CHED	344
Alscher, F.	CATL	55	Amin, A.S.	INOR	33	Anderson, N.C.	INOR	586
Alshahrani, H.S.	ANYL	477	Aminabhavi, T.	CHED	59	Anderson, R.	ENVR	452
Alshahrani, M.	ENFL	551	Amini, K.	PHYS	207	Anderson, R.L.	COLL	592
Alshamrani, N.	COMP	471	Amini, S.	PMSE	188	Anderson, R.L.	COMP	43
Alsharaeh, E.H.	ENFL	427	Aminov, D.	PHYS	387	Anderson, R.L.	COMP	46
Alsharaeh, E.H.	ENFL	551	Amirbahman, A.	ENVR	483	Anderson, R.L.	COMP	461

Anderson, S.L.	ANYL	81	Anja, M.	AGRO	161	Araji, H.	COMP	313
Anderson, S.L.	PHYS	245	Anjana, T.	CATL	509	Arakawa, R.	COLL	211
Anderson, S.	PMSE	239	Anjos, N.S.	ORGN	579	Araneda, J.	CHED	390
Anderson, S.	ENFL	76	Anjuman, A.	ENVR	206	Arango, C.A.	CHED	270
Anderson, T.	AGRO	151	Anker, J.N.	ANYL	258	Arango, C.A.	CHED	343
Anderson, T.	AGRO	184	Anker, J.N.	ANYL	411	Arava, L.	ENVR	332
Anderson, T.	AGRO	275	Ann, D.	ENVR	504	Arava, L.	ENVR	334
Anderson, T.	AGRO	294	Anna, J.M.	CHED	335	Arava, L.	ENVR	338
Anderson, T.	AGRO	359	Anna, J.M.	INOR	426	Arboleda, C.	COLL	600
Anderson, T.D.	AGRO	34	Anna, J.M.	PHYS	48	Arbour, C.A.	ORGN	153
Anderson, T.D.	AGRO	152	Anna, J.M.	PHYS	390	Arbuckle-Keil, G.A.	POLY	100
Andes, A.	CHED	421	Anna, J.M.	PHYS	468	Arcadia, C.E.	CATL	340
Andolina, C.M.	COLL	675	Anna, J.M.	PHYS	477	Arcement, A.M.	ENVR	669
Andolina, C.M.	INOR	424	Anna, J.M.	PHYS	573	Archer, K.E.	MEDI	363
Andoni, I.	INOR	302	Annabhimoju, R.	COMP	450	Archer, L.A.	PHYS	226
Andrabi, R.	CARB	73	Annamalai, A.	CATL	315	Archevald, M.	AGRO	311
Andrade, C.H.	CINF	24	Annapragada, R.	POLY	164	Arcidiacono, S.	AGFD	76
Andrade, C.H.	CINF	143	Anneser, M.R.	INOR	148	Arcidiacono, S.	AGFD	77
Andrade, M.C.	CATL	5	Anosike, E.	AGFD	176	Arcidiacono, S.	AGFD	277
Andrade, R.B.	MEDI	226	Anovitz, L.	GEOC	4	Arcidiacono, S.	AGFD	310
Andrade, R.B.	MEDI	336	Anovitz, L.	GEOC	37	Arcidiacono, S.	AGFD	311
Andrade, X.	COMP	54	Ansari, A.	ENVR	222	Arconada, S.	COLL	367
Andrade Bonilla, P.	MEDI	380	Ansari, F.	INOR	305	Arcure, H.	CHED	145
Andrae-Marobela, K.	CINF	27	Ansari, A.A.	INOR	499	Arcure, H.	CHED	349
Andre, R.	BIOL	271	Anselme, K.	POLY	483	Ard, J.C.	I&EC	10
Andre, T.F.	INOR	749	Anseth, J.	COLL	473	Ardo, S.	PMSE	204
Andreana, P.R.	CARB	8	Anseth, K.S.	PMSE	169	Ardolino, M.J.	MEDI	24
Andreana, P.R.	CARB	64	Anseth, K.S.	PMSE	299	Ardolino, M.J.	ORGN	291
Andreana, P.R.	CARB	118	Anseth, K.S.	POLY	25	Arefi-Khonsari, F.	MPPG	21
Andreatta, J.R.	CHED	428	Anseth, K.S.	POLY	157	Arencibia, S.	POLY	115
Andrescu, D.	AGFD	174	Anslyn, E.V.	ANYL	24	Arendt, M.K.	BIOL	208
Andrescu, E.	AGFD	174	Anslyn, E.V.	CHED	291	Arenz, M.	COLL	503
Andrescu, E.	ANYL	40	Anstine, D.	PMSE	541	Arevalo, R.	INOR	181
Andrescu, E.	ANYL	282	Anthony, D.	ORGN	107	Arey, B.W.	GEOC	58
Andrescu, E.	ENVR	190	Anthony, J.E.	PHYS	518	Argiriadi, M.	MEDI	8
Andren, O.	POLY	393	Anthony, N.J.	MEDI	342	Argiriadi, M.	MEDI	10
Andreo, M.	COLL	157	Anthony, R.	ENVR	157	Arguello, A.	BIOL	309
Andres, S.	MEDI	190	Antoine, R.	CELL	75	Arguello, E.	ORGN	399
Andrew, H.	PHYS	407	Antonio, A.	INOR	750	Arguien, M.N.	POLY	402
Andrew, R.	ENFL	492	Antoniuk-Pablant, A.D.	CATL	36	Argyle, M.	CATL	468
Andrew, T.L.	ANYL	364	Antretter, T.	PMSE	772	Argyropoulos, J.	POLY	12
Andrew, T.L.	PMSE	268	Antunes, A.	TOXI	51	Argyropoulos, K.	ANYL	379
Andrew, T.L.	POLY	381	Antunes, J.M.	ENVR	738	Arhangelskis, M.	COMP	538
Andrews, A.M.	ANYL	178	Antuniassi, U.	AGRO	75	Arhangelskis, M.	ORGN	431
Andrews, A.M.	ANYL	201	Antuniassi, U.R.	AGRO	314	Arhangelskis, M.	ORGN	433
Andrews, A.M.	ANYL	426	Antwi Peparh, B.	ENFL	99	Arhangelskis, M.	ORGN	435
Andrews, A.M.	COLL	438	Anuganti, M.	COLL	676	Arias, C.	COLL	415
Andrews, A.M.	COLL	698	Anvari, A.	ENVR	218	Arias, D.	PHYS	128
Andrews, A.M.	INOR	579	Anwar, N.	ENVR	23	Arias, P.	CATL	486
Andrews, A.M.	MPPG	67	Anwar, N.	ENVR	593	Arias, R.N.	INOR	126
Andrews, A.M.	MPPG	70	Anyaele, G.	BIOL	55	Arias, R.N.	INOR	324
Andrews, B.	COMP	505	Anyfantakis, M.	CELL	57	Arias-Carrión, O.	CHED	288
Andrews, J.W.	INOR	256	Anzenbacher, P.	ANYL	28	Ariese, F.	ENVR	712
Andrews, M.C.	INOR	386	Aoki, A.	AGRO	12	Arifuzzaman, M.	ANYL	258
Andrez, J.	MEDI	359	Aoki, D.	POLY	76	Arifuzzaman, M.	ANYL	411
Andrianov, A.K.	COLL	157	Aoki, D.	POLY	416	Arimitsu, K.	CARB	100
Andricopulo, A.D.	CINF	4	Aoki, D.	POLY	417	Arimitsu, K.	PMSE	499
Andrieu-Brunsen, A.	BIOL	316	Aoki, M.	MEDI	73	Arimitsu, K.	PMSE	500
Andrieu-Brunsen, A.	COLL	764	Aokorful, E.	AGFD	183	Arimitsu, K.	PMSE	508
Andrieux, S.	PMSE	673	Aonbangkhen, C.	BIOL	40	Arisseto, A.P.	AGFD	46
Andrison, R.	CHED	55	Aonbangkhen, C.	BIOL	232	Aristilde, L.	BIOL	216
Androniuk, I.	GEOC	23	Aoyama, Y.	POLY	615	Aristilde, L.	CATL	336
Androphy, E.J.	MEDI	111	Aparicio, M.	PMSE	729	Arjmandi, M.	PHYS	554
Androsch, R.	PMSE	66	Apblett, A.W.	INOR	437	Arkin, M.	BIOL	116
Andrus, M.	ORGN	674	Apblett, A.W.	INOR	497	Arkin, M.	MEDI	298
Anex, D.	ANYL	491	Apblett, A.W.	INOR	562	Arkin, M.	MEDI	299
Ang, K.	INOR	201	Apell, J.	AGRO	17	Arkin, M.	MEDI	300
Angarita, P.	ANYL	558	Appel, H.	PHYS	73	Arleth, L.	AGFD	158
Angel, J.	POLY	72	Appelgate, S.	AGRO	57	Arleth, L.	COLL	405
Angel, P.M.	ENFL	539	Appelhans, D.	PMSE	45	Arleth, L.	COLL	772
Angel, S.M.	ANYL	455	Appell, M.	AGFD	244	Armacost, K.	COMP	321
Angelaud, R.	ORGN	489	Appell, M.	AGFD	327	Armanado, L.	ENVR	608
Angeles, A.R.	MEDI	311	Appen, J.	CHAS	39	Armas, R.	ORGN	454
Angeles, L.	AGRO	351	Appiah, J.K.	INOR	693	Armbrister, S.	COLL	157
Angeles, T.S.	MEDI	358	Appleton, D.	AGFD	45	Armbrust, K.L.	AGRO	368
Ángeles Beltrán, D.	CATL	316	Appt, S.	AGFD	316	Armento, I.	ORGN	440
Angeles Boza, A.M.	BIOL	65	Apra, E.	COMP	92	Armentrout, P.B.	CHED	378
Angeles Boza, A.M.	BIOL	295	Apte, A.	INOR	304	Armentrout, P.B.	PHYS	539
Angeles Boza, A.M.	COLL	196	Apul, O.	ENVR	137	Armer, T.	MEDI	75
Angeles Boza, A.M.	COMP	255	Apul, O.	ENVR	424	Armes, S.P.	PMSE	65
Angeles Boza, A.M.	INOR	564	Apul, O.	ENVR	491	Armes, S.P.	POLY	189
Angeles Boza, A.M.	INOR	669	Apul, O.	ENVR	816	Armitage, B.A.	ANYL	494
Angeles Boza, A.M.	MEDI	91	Aqad, E.	POLY	372	Armstrong, B.	ENFL	95
Angeles Boza, A.M.	MEDI	167	Aquila, A.	PHYS	9	Armstrong, C.	CARB	59
Angeles Boza, A.M.	PMSE	654	Aquila, F.	PHYS	430	Armstrong, C.	POLY	306
Angeli, P.	ENFL	418	Aquino, F.	COMP	472	Armstrong, N.J.	AGFD	311
Angeli, D.K.	COLL	659	Aquino, J.	ENVR	788	Arnadottir, L.	CATL	51
Angeli, D.K.	PHYS	239	Arabi, A.	CHED	248	Arner, M.	PMSE	724
Angello, N.	CHED	320	Arachhige, D.	MEDI	448	Arnett, N.	PMSE	629
Angerhofer, A.	BIOL	305	Arachhige, I.U.	COLL	681	Arnett, N.	PMSE	715
Angle, E.	CHED	197	Arachhige, I.U.	INOR	472	Arnett, S.	MEDI	103
Aniceto, N.	CINF	159	Arachhige, I.U.	INOR	585	Arno, J.	INOR	122
Anikeeva, P.	COLL	112	Arai, N.	COMP	424	Arno, M.C.	PMSE	123
Anisur, M.	PHYS	298	Arai, T.	MEDI	388	Arnoff, A.I.	INOR	752

Arnold, A.	MEDI	301	Ashoori, N.	ENVR	655	Avenoso, J.P.	PHYS	490
Arnold, A.	ORGN	464	Ashraf, K.M.	ENFL	220	Averick, S.	POLY	261
Arnold, A.	PMSE	77	Ashraf, K.	PHYS	46	Averick, S.	POLY	455
Arnold, E.P.	MEDI	319	Ashraf, K.	PHYS	562	Aversa, C.	PMSE	614
Arnold, J.	INOR	445	Ashraf Uz Zaman, M.	MEDI	165	Avery, P.	COMP	1
Arnold, J.	AGRO	244	Ashweek, N.J.	MEDI	339	Avery, P.	PHYS	305
Arnold, L.	MEDI	189	Ashwell, B.	PHYS	37	Avery, P.	PHYS	307
Arnold, M.	ENVR	124	Asik, D.	INOR	713	Avila, R.	COMP	397
Arnold, T.	COLL	79	Askanazi, E.	PHYS	131	Aviles-Mercado, R.	PRES	25
Arnold, W.	ENVR	111	Askim, J.	ANYL	161	Awale, M.	CINF	23
Arnold, W.	ENVR	372	Aslanian, R.G.	CHED	392	Awani, I.	COMP	462
Arnold, W.	GEOC	41	Aso, R.	CATL	23	Awosanya, A.	CHED	230
Arnot, D.	PMSE	34	Aspuru-Guzik, A.	COMP	117	Awwa, M.	MEDI	175
Aronoff, M.R.	ORGN	247	Aspuru-Guzik, A.	COMP	301	Axtell, J.	PMSE	660
Aronow, S.	POLY	340	Aspuru-Guzik, A.	COMP	302	Ayad, N.	CINF	141
Arora, G.	CATL	150	Aspuru-Guzik, A.	COMP	456	Ayala, P.A.	CHED	42
Arora, N.	ENFL	542	Aspuru-Guzik, A.	ENFL	560	Aydin, A.	PMSE	431
Arora, N.	CHAS	41	Aspuru-Guzik, A.	PHYS	49	Aye, Y.	BIOL	15
Arora, P.	ORGN	89	Aspuru-Guzik, A.	PHYS	128	Aye, Y.	TOXI	8
Arora, R.	TOXI	79	Aspuru-Guzik, A.	PMSE	173	Ayers, A.	AGRO	361
Arosio, P.	BIOL	258	Asquith, C.R.	MEDI	187	Ayers, D.S.	ORGN	339
Arosio, P.	CHED	180	Assadieskandar, A.	MEDI	52	Ayers, K.	COLL	676
Arpompong, N.	I&E	53	Assalin, M.	AGRO	314	Ayers, K.E.	ENFL	371
Arriaga, E.A.	ANYL	51	Assefa, T.	PHYS	109	Ayers, K.E.	ENFL	372
Arroziz, C.	ORGN	290	Assefa, Z.	INOR	109	Ayillath Kutteri, D.	CATL	327
Arowsmith, C.	MEDI	345	Asten, A.V.	ANYL	291	Ayotte, C.A.	INOR	260
Arroyo, M.	COMP	466	Asthaqiri, A.R.	PHYS	522	Ayotte, P.	PHYS	133
Arroyo, N.	ANYL	380	Aston, J.C.	AGRO	203	Ayres, N.	BIOL	88
Arroyo, N.	ANYL	413	Åstot, C.	ANYL	239	Ayres, N.	POLY	327
Arroyo, P.	COLL	155	Asvany, O.	PHYS	367	Ayrton, S.T.	CHED	439
Arroyo-Currás, N.	ANYL	43	Atabae, T.S.	INOR	160	Ayuso, D.	PHYS	87
Arrua, D.	ENVR	183	Atakay, M.	ANYL	94	Ayyub, O.B.	COLL	413
Arrua, D.	PMSE	144	Atem, C.	ORGN	446	Azam, S.	BIOL	66
Arsalan, M.	ENFL	551	Atifi, A.	ANYL	433	Azam, S.	BIOL	238
Arsalan, M.	PMSE	782	Atifi, A.	INOR	667	Azbill, N.	INOR	137
Arseneault, M.	PMSE	621	Atilla-Gokcumen, G.	TOXI	19	Azih, M.C.	AGFD	254
Arshadi, M.	ENVR	665	Atkinson, A.J.	CHED	120	Azih, M.C.	AGFD	255
Arthur, I.	PMSE	473	Atkinson, A.J.	ENVR	423	Azim, M.	INOR	628
Arthur, R.	INOR	731	Atkinson, A.J.	ENVR	488	Aziz, H.	POLY	7
Arthur, T.S.	PRES	17	Atkinson, A.J.	ENVR	489	Aziz, M.J.	ENFL	42
Artigas, A.	ORGN	536	Atkinson, A.J.	ENVR	493	Azizian, M.	ENVR	305
Artiglia, L.	COLL	155	Atkinson, A.J.	ENVR	816	Azoia, N.G.	BIOL	56
Artim, C.	POLY	488	Atkinson, J.D.	ENVR	139	Azoulay, J.D.	ENVR	197
Arumugam, P.	MEDI	65	Atkinson, K.	MEDI	151	Azuma, T.	COLL	49
Arun, G.	MEDI	404	Ator, M.A.	MEDI	358	Ba, Y.	COLL	268
Ary, M.L.	COLL	174	Atta, A.	ANYL	466	Ba, Y.	POLY	355
Ary, M.L.	COLL	504	Attanayake, N.	ENFL	499	Baaden, M.	COMP	68
Aryal, S.	COLL	216	Attanayake, N.H.	COLL	685	Baalbaki, A.	ANYL	182
Aryal, S.	COLL	467	Attar, S.	POLY	428	Baalbaki, A.	ENVR	759
Arz, D.	MEDI	101	Attard, J.	CHED	298	Baalousha, M.	ENVR	68
Asadulaev, A.	COMP	96	Attard, J.	ORGN	109	Baba, N.	AGFD	10
Asai, T.	POLY	303	Attard, J.	ORGN	354	Baba, R.	MEDI	63
Asandei, A.D.	POLY	344	Attenkofer, K.	CATL	256	Baba, S.	AGFD	10
Asandei, A.D.	POLY	357	Attia, P.	PHYS	534	Babaa, M.	ENVR	806
Asandei, A.D.	POLY	526	Attygalle, A.B.	AGFD	111	Bababrik, R.M.	CATL	484
Asano, M.	PMSE	513	Atwater, H.	MPPG	55	Babault, N.	MEDI	345
Asari, T.	MEDI	337	Atwi, R.	ENVR	302	Babbs, A.	MEDI	289
Asatekin, A.	ENFL	411	Atzori, A.	COMP	362	Baber, A.	COLL	148
Asatekin, A.	PMSE	348	Aube, J.	MEDI	69	Baber, A.E.	CHED	40
Asatekin, A.	POLY	475	Aube, J.	MEDI	116	Babic, J.T.	INOR	605
Asbury, J.B.	COMP	200	Aube, J.	ORGN	524	Babikov, D.	PHYS	174
Asbury, J.B.	PHYS	2	Aubrecht, K.	CHED	368	Babin, V.	COMP	527
Asbury, J.B.	PHYS	578	Aubrecht, K.	CHED	407	Babinska, A.	BIOL	38
Asbury, J.B.	PHYS	579	Aubry, T.	PMSE	660	Babst, B.A.	CELL	19
Aschauer, U.	COMP	564	Aucagne, V.	COMP	433	Babu, G.	ENVR	334
Ascough, D.	ORGN	357	Aucoin, R.	AGRO	196	Babu, G.	ENVR	335
Asenath Smith, E.	ENVR	279	Audia, J.E.	MEDI	330	Babu, G.	ENVR	338
Asenath Smith, E.	ENVR	485	Auell, O.	AGFD	306	Babu, R.	PMSE	534
Asenath-Smith, E.	ENVR	482	Auerbach, M.	POLY	450	Babucci, M.	CATL	392
Asghar, F.	INOR	569	Auger-Casavant, G.	ENVR	731	Baburin, I.A.	ORGN	534
Asghar, F.	MEDI	236	Augustyn, V.	ENFL	196	Baca, A.	POLY	256
Ash, J.	CINF	50	Augustyn, V.	ENFL	355	Bach, T.	ORGN	104
Ash, J.	COMP	74	Augustyn, V.	ENFL	520	Bach, T.	ORGN	118
Ashani, H.	ENVR	488	Auh, J.	AGFD	117	Bach, T.	ORGN	168
Ashberry, H.	INOR	269	Aulin, Y.	COLL	499	Bach, T.	ORGN	170
Ashby, D.	PHYS	164	Austin, B.	ORGN	624	Bach, T.	ORGN	179
Ashby, M.T.	CHED	85	Austin, B.	ORGN	626	Bachand, G.D.	POLY	236
Ashby, M.T.	INOR	220	Austin, N.	CATL	86	Bachas, L.G.	CHED	284
Ashby, R.D.	AGFD	242	Ausubel, F.M.	MEDI	136	Bachhav, M.	ENFL	9
Ashcroft, N.	PHYS	366	Autio, W.	AGFD	125	Bachhav, M.	GEOC	55
Ashcroft, S.J.	COLL	621	Autschbach, J.	COMP	1	Bachmann, T.	BIOL	97
Ashenden, S.	CINF	169	Autschbach, J.	COMP	131	Bachovchin, K.A.	CHED	257
Asher, J.C.	COMP	205	Autschbach, J.	INOR	426	Bachovchin, K.A.	MEDI	310
Asher, S.A.	CHED	362	Auxier, J.D.	NUCL	23	Bachovchin, K.A.	MEDI	335
Ashfaq, A.	COLL	348	Auxier, J.D.	NUCL	79	Bacic, A.	COMP	254
Ashfield, P.	AGRO	52	Auxier, J.D.	NUCL	84	Backfisch, G.	MEDI	318
Ashley, D.	INOR	545	Auyeung, E.	POLY	524	Backov, R.	PMSE	275
Ashley, D.	INOR	547	Auzely-Velty, R.	CELL	48	Bacon, D.	COMP	141
Ashley, E.	MEDI	311	Avalos, C.E.	INOR	127	Bacon, R.	ENVR	118
Ashlin, M.	CHED	339	Avalos, C.E.	INOR	357	Bacsa, J.	INOR	589
Ashline, D.J.	CARB	25	Avalos, C.E.	INOR	762	Badaoui, A.	CHED	80
Ashline, D.J.	CARB	70	Avant, B.	ENVR	91	Baddeley, C.	COLL	149
Ashner, M.	PHYS	414	Avargil, S.	CHED	91	Baddour, F.	CATL	165
Ashok, S.	BIOL	73	Avenoso, J.P.	PHYS	449	Baddour, F.	CATL	167

Baddour, F.	CATL	168	Bailey, T.S.	POLY	307	Baldwin, K.Y.	MEDI	403
Baddour, F.	INOR	31	Bailey, T.S.	POLY	314	Baldwin, L.	POLY	256
Baddour, F.G.	CATL	170	Bailey, T.L.	POLY	484	Balijepalli, A.	ANYL	122
Bader, M.	CHED	263	Baillargeon, K.R.	ANYL	11	Balijepalli, A.	POLY	93
Bader, M.	PMSE	507	Bain, E.	PHYS	157	Balius, T.E.	COMP	34
Badie, Y.M.	CHED	251	Bain, K.	CHED	439	Balius, T.E.	COMP	71
Badireddy, R.	ENVR	74	Bain, R.	ENFL	491	Balke, N.	PHYS	531
Badjic, J.	ANYL	27	Bain, R.M.	ANYL	557	Balke, N.	POLY	292
Badowski, T.	COMP	306	Bain, R.M.	CHED	439	Balke, N.	PRES	16
Badshah, A.	CATL	512	Baird, J.	MEDI	286	Balkus, K.J.	CATL	32
Badshah, A.	INOR	61	Baird, L.M.	ENVR	72	Balkus, K.J.	ENFL	496
Badshah, A.	INOR	62	Baird, N.J.	MEDI	404	Ball, E.	CHED	253
Badshah, A.	INOR	569	Baisden, P.	NUCL	3	Ball, H.	AGFD	97
Badshah, A.	MEDI	236	Baiz, C.	INOR	362	Ballard, J.	MEDI	279
Badshah, A.	MEDI	386	Baiz, C.	INOR	613	Ballard, J.	MEDI	144
Badu-Tawiah, A.	ANYL	354	Bajaj, A.	COMP	90	Ballard, W.	ENVR	279
Badway, F.	PHYS	114	Bajaj, D.	PMSE	18	Baller, J.	CELL	59
Bae, S.	PMSE	571	Bajaj, D.	PMSE	220	Ballestas Barrientos, A.R.	CATL	254
Bae, H.	ENVR	801	Bajaj, P.	PMSE	220	Balloul, E.	COLL	526
Bae, J.	PMSE	487	Bajaj, P.	COMP	36	Balmforth, J.D.	CHED	224
Bae, S.	INOR	579	Bajaj, P.	PHYS	352	Balogh, J.	CATL	302
Bae, S.	ENVR	407	Bajaj, G.	BIOL	102	Balogun, Y.	COLL	516
Bae, S.	ENVR	742	Bajorath, J.	CINF	91	Balow, R.	COLL	336
Bae, S.	ENVR	750	Bajsa-Hirschel, J.	AGRO	144	Balow, R.	POLY	553
Bae, Y.	ENVR	389	Bajwa, B.	ORGN	442	Balow, R.B.	COLL	39
Baek, H.	INOR	79	Bajwa, B.S.	MEDI	142	Balow, R.B.	POLY	443
Baek, K.	CATL	333	Bak, D.	BIOL	121	Balsara, N.P.	PHYS	20
Baek, K.	PMSE	571	Bak, D.	INOR	603	Balsara, N.P.	POLY	184
Baek, S.	ENVR	217	Bak, S.	ENFL	521	Balsells-Padros, J.	MEDI	82
Baek, S.	ENVR	594	Bakal, S.M.	CHED	236	Balskus, E.	BIOL	111
Baek, Y.	INOR	623	Bakenov, Z.	ENVR	28	Balskus, E.	BIOL	131
Bæk, M.	ORGN	363	Baker, D.L.	MEDI	170	Balskus, E.	BIOL	204
Baer, B.R.	MEDI	144	Baker, D.	COLL	672	Balskus, E.	BIOL	233
Baer, E.	PMSE	736	Baker, D.	COLL	742	Balskus, E.	BIOL	284
Baer, M.D.	GEOC	45	Baker, G.E.	MEDI	307	Balskus, E.P.	ORGN	279
Baer, R.C.	COLL	524	Baker, J.M.	AGRO	48	Balskus, E.P.	ORGN	379
Baets, D.	AGRO	47	Baker, J.L.	COMP	312	Baltimore, D.	PHYS	75
Baeza, L.	CHED	338	Baker, J.L.	COMP	327	Balto, K.P.	INOR	626
Baeza Reyes, A.	ANYL	103	Baker, J.L.	POLY	461	Baltrusaitis, J.	CATL	171
Baeza Reyes, A.	ANYL	134	Baker, L.	CATL	18	Baltrusaitis, J.	CATL	228
Bag, S.	MEDI	36	Baker, L.	CATL	116	Baltrusaitis, J.	CATL	423
Bag, S.	MEDI	310	Baker, L.	CATL	247	Baltrusaitis, J.	ENVR	96
Bagajewicz, M.J.	I&E	60	Baker, L.	PHYS	522	Baltrusaitis, J.	ENVR	451
Bagchi, D.	COLL	694	Baker, L.	PHYS	527	Baltussen, M.	CATL	436
Bagchi, D.	INOR	373	Baker, L.A.	ANYL	90	Balyan, S.	CATL	255
Bagchi, D.	INOR	526	Baker, L.A.	ANYL	104	Bamberg, K.	ORGN	207
Bagchi, D.	PHYS	389	Baker, L.A.	ANYL	116	Bamberger, S.N.	TOXI	106
Bagchi, D.	PMSE	767	Baker, L.A.	ANYL	159	Bamidele, M.	ANYL	293
Bagchi, S.	ENVR	241	Baker, L.A.	ANYL	180	Ban, X.	AGFD	264
Bagchi, S.	ENVR	330	Baker, L.A.	ANYL	478	Banal, J.	PHYS	47
Bagci-Onder, T.	BIOL	168	Baker, S.J.	ENVR	576	Banal, J.	PHYS	403
Bagdadi, S.	CINF	44	Baker, S.	ORGN	450	Banal, J.	PHYS	509
Bagdadi, S.	CINF	47	Baker, V.F.	PMSE	338	Banal, M.	BIOL	314
Bagga, K.K.	CHED	116	Baker, V.F.	PMSE	418	Banares, L.	PHYS	15
Baghbanzadeh, M.	PHYS	425	Bakir, M.A.	INOR	46	Banares, L.	PHYS	38
Baghdachi, J.	PMSE	312	Bakr, B.W.	COMP	539	Banares, L.	PHYS	257
Bagley, S.W.	ORGN	133	Bakthavatsalam, S.	INOR	187	Banavali, N.K.	COMP	220
Bagnall, N.	CHED	230	Bal, I.	MEDI	142	Bancroft, L.	ENVR	393
Bagri, P.	INOR	98	Bal, K.	PHYS	230	Bandara, N.	MEDI	237
Bagri, P.	INOR	423	Balabin, I.A.	AGRO	107	Bandara, Y.D.	ANYL	409
Bahr, G.	COMP	253	Balachandran, K.	PMSE	521	Bandarian, V.	BIOL	289
Bai, F.	COMP	316	Balachandran, K.	PMSE	522	Bandaru, S.	ENVR	525
Bai, G.	MEDI	151	Balaeff, A.	ANYL	383	Bandegi, A.	POLY	191
Bai, J.	ENVR	677	Balakrishna, G.	COMP	199	Bandegi, S.	COLL	545
Bai, L.	CATL	234	Balakrishnan, K.	COLL	442	Bandera, I.	POLY	170
Bai, L.	I&E	22	Balaña-Fouce, R.	ORGN	367	Bandi, C.	CARB	95
Bai, L.	CELL	37	Balar, N.	PMSE	193	Bandrauk, A.D.	PHYS	91
Bai, L.	COLL	63	Balasubramanian, R.	MEDI	385	Bandyopadhyay, D.	ORGN	598
Bai, P.	CATL	53	Balasubramanian, V.	COMP	376	Bandyopadhyay, D.	ORGN	636
Bai, P.	PHYS	65	Balati, A.	ENVR	450	Bandyopadhyay, D.	ORGN	637
Bai, R.	ANYL	323	Balazs, A.	PMSE	248	Bandyopadhyay, K.	COLL	184
Bai, R.	ENVR	55	Balbo, S.	TOXI	16	Bandyopadhyay, K.	COLL	226
Bai, R.	MEDI	99	Balbo, S.	TOXI	52	Bane, S.L.	BIOL	33
Bai, S.	PMSE	52	Balbo, S.	TOXI	55	Bane, S.L.	BIOL	193
Bai, S.	PHYS	231	Balbo, S.	TOXI	56	Bane, S.L.	ORGN	387
Bai, X.	CATL	249	Balbo, S.	TOXI	77	Banerjee, A.	BIOL	8
Bai, X.	CATL	320	Balboni, E.	GEOC	61	Banerjee, G.	ENVR	761
Bai, X.	CATL	321	Balboni, E.	NUCL	48	Banerjee, I.A.	COLL	187
Bai, X.	CATL	343	Balcer, J.	AGRO	109	Banerjee, M.	INOR	471
Bai, X.	ENVR	235	Balcer, J.	AGRO	251	Banerjee, P.	ANYL	109
Bai, Y.	ANYL	451	Balciunaitė, A.	ENFL	528	Banerjee, R.	INOR	218
Bai, Y.	INOR	313	Baldacchini, T.	ANYL	361	Banerjee, S.	ENFL	522
Baier, G.	BIOL	271	Baldansuren, A.	INOR	654	Banerjee, S.	ENVR	331
Baier, G.	BIOL	316	Baldasaro, N.	ANYL	517	Banerjee, S.	ENVR	346
Baig, N.	AGRO	216	Baldassari, J.	MEDI	311	Banerjee, S.	PRES	12
Baijnath, B.	ENFL	529	Baldi, A.	POLY	345	Banerjee, S.	PMSE	407
Baikerikar, K.	PMSE	798	Baldini, E.	PHYS	102	Banerjee, S.	PMSE	427
Bailey, C.	PMSE	663	Baldo, M.	PHYS	333	Banerjee, S.	PMSE	531
Bailey, J.	PMSE	347	Baldock, B.L.	COLL	693	Banerjee, S.	ANYL	329
Bailey, J.K.	CARB	65	Baldock, V.	ANYL	325	Bang, J.	COLL	255
Bailey, M.	INOR	158	Baldrige, K.K.	INOR	290	Bang, J.H.	INOR	490
Bailey, M.A.	CHED	66	Baldrige, K.K.	INOR	296	Bang, S.	ENVR	634
Bailey, M.A.	CHED	94	Baldrige, K.K.	INOR	590	Bang, S.	INOR	733
Bailey, R.C.	POLY	140	Baldwin, A.G.	COMP	416	Banh, H.	INOR	616

Banik, A.	INOR	436	Bardeen, C.J.	ORGN	528	Bartelt-Hunt, S.	ENVR	295
Banik, B.	INOR	471	Bardeen, C.J.	PHYS	53	Barth, M.M.	MEDI	10
Banik, G.M.	CINF	64	Barden, D.R.	COMP	467	Bartha, E.	CARB	84
Banik, M.	COLL	637	Bardhan, R.	COLL	459	Barthel, S.	ORGN	534
Bankar, G.	MEDI	278	Bardon, K.M.	BIOL	110	Bartholomay, L.	AGRO	311
Banker, M.	MEDI	319	Bare, S.	CATL	11	Bartko, S.G.	ORGN	238
Banks, T.	PMSE	650	Bare, S.	CATL	62	Bartlett, A.	COMP	51
Bannan, C.C.	COMP	423	Bare, S.	CATL	72	Bartlett, G.	CARB	48
Banner, J.	ENVR	337	Bare, S.	CATL	377	Bartlett, M.	ORGN	619
Bannerman, W.	POLY	344	Bare, S.	CATL	392	Bartley, G.E.	AGFD	301
Bannerman, W.	POLY	357	Bare, S.R.	CATL	14	Bartolotti, L.J.	INOR	684
Banning, D.H.	ANYL	77	Baringhaus, K.	CINF	101	Bartolucci, S.F.	COMP	574
Bannister, T.D.	MEDI	275	Barizon, R.	AGRO	314	Bartolucci, S.F.	INOR	307
Bannock, J.H.	PMSE	622	Barkay, T.	ENVR	262	Bartolucci, S.F.	POLY	612
Bannon, M.	PMSE	495	Barker, D.	AGFD	249	Bartomeu Garcia, C.	MEDI	42
Bannwart, G.	INOR	629	Barker, D.	AGFD	347	Barton, H.	INOR	116
Bano, S.	COLL	51	Barker, D.	MEDI	11	Barton, Z.	CATL	270
Banquy, X.	COLL	339	Barker, D.	MEDI	207	Bartrom, A.	INOR	39
Bansal, N.	COMP	448	Barker, D.	ORGN	199	Bartucci, M.	POLY	262
Bansal, V.	ANYL	281	Barker, D.	ORGN	459	Bartz, R.	CHED	403
Bansil, R.	CHED	109	Barker, D.	ORGN	522	Barua, N.	COLL	564
Banta-Green, C.	ENVR	515	Barker, D.	ORGN	668	Barybin, M.V.	INOR	518
Bao, B.	CATL	319	Barker, D.	POLY	73	Baryza, J.L.	COMP	188
Bao, B.	CATL	327	Barkley, S.	PMSE	515	Barz, M.	PMSE	151
Bao, G.	AGFD	150	Barlaam, B.	MEDI	19	Barz, M.	PMSE	640
Bao, H.	PHYS	511	Barletta, M.	PMSE	614	Barz, M.	POLY	186
Bao, J.	ENFL	421	Barlog, M.	POLY	103	Barz, M.	POLY	623
Bao, J.	ENFL	72	Barlog, M.	POLY	435	Barzda, V.	ANYL	449
Bao, J.	ENFL	331	Barman, I.	ANYL	406	Barzegar, S.	INOR	312
Bao, J.	MPPG	59	Barnash, K.D.	MEDI	138	Barzen, J.	AGRO	55
Bao, K.	ANYL	534	Barnekow, D.E.	AGRO	122	Barzilay, R.	COMP	93
Bao, L.	COLL	71	Barnes, B.	POLY	92	Barzilay, R.	COMSCI	7
Bao, M.	CATL	129	Barnes, B.	POLY	269	Basanty, B.	ANYL	143
Bao, N.	ENVR	606	Barnes, E.	COLL	269	Basanty, B.	ENFL	472
Bao, N.	INOR	723	Barnes, F.	INOR	460	Basbug, H.	PMSE	118
Bao, N.	ENFL	61	Barnes, F.	INOR	757	Baser, D.S.	ENFL	457
Bao, S.	MEDI	432	Barnes, J.C.	PMSE	240	Bashir, S.	ENFL	485
Bao, X.	CATL	412	Barnes, J.C.	POLY	34	Basinsky, A.	MEDI	410
Bao, X.	BIOL	35	Barnes, S.R.	COLL	697	Basirico, L.M.	AGRO	368
Bao, X.	BIOL	197	Barnett, K.	ORGN	630	Baskin, J.M.	BIOL	7
Bao, Z.	MPPG	36	Barnett, K.L.	CHED	73	Baskin, J.M.	BIOL	19
Bao, Z.	MPPG	63	Barney, W.	AGRO	10	Basnet, G.	INOR	99
Bao, Z.	PMSE	9	Barnum, T.	PHYS	86	Basquez, M.K.	ORGN	636
Bao, Z.	PMSE	33	Baron, J.	AGRO	10	Basri, A.	INOR	565
Bao, Z.	PMSE	39	Baron, J.	AGRO	192	Bass, A.	MEDI	342
Bao, Z.	PMSE	221	Barone, G.	INOR	63	Bass, G.	COLL	752
Bao, Z.	PMSE	260	Barone, V.	ENFL	12	Bass, G.	PMSE	143
Bao, Z.	PMSE	263	Baroud, T.	CHED	242	Bassaganya-Riera, J.	MEDI	6
Bao, Z.	POLY	101	Barr, C.	MPPG	104	Bassampour, Z.S.	PMSE	440
Bao, Z.	POLY	514	Barr, J.R.	ANYL	489	Basser, P.J.	BIOL	34
Baowei, C.	ENVR	129	Barr, J.R.	ENVR	744	Basser, P.J.	POLY	91
Bapat, M.	AGRO	142	Barra, J.M.	COLL	481	Bassett, A.W.	AGFD	324
Bapat, S.R.	COLL	11	Barraga, C.	INOR	126	Bassil, B.	COMP	313
Bara, J.E.	POLY	193	Barragan, C.	INOR	324	Bassit, L.	COMP	435
Bara, J.E.	POLY	364	Barraza, I.	INOR	55	Bassous, N.	MEDI	192
Barak, M.	COLL	511	Barraza, I.	INOR	672	Bassous, N.	PMSE	762
Barakoti, K.	ANYL	437	Barraza, R.	ORGN	166	Bastiaensens, M.	ENVR	790
Baran, J.R.	COLL	476	Barreat, M.	COLL	111	Bastidas, K.	ENVR	478
Baran, M.J.	PMSE	108	Barreda, O.	INOR	229	Basu, A.	CARB	1
Baran, M.J.	PMSE	178	Barreda, O.	INOR	629	Basu, A.	CARB	35
Baran, P.	INOR	44	Barreiro, E.J.	MEDI	334	Basu, A.	CHED	69
Baran, P.S.	WCC	3	Barrera, G.	ORGN	144	Basu, A.K.	TOXI	4
Baranouskas, V.	PMSE	320	Barrera Ocampo, A.	CHED	270	Basu, A.K.	TOXI	47
Baranello, M.	INOR	210	Barres, C.	PMSE	712	Basu, M.	AGRO	40
Baranoski, M.H.	POLY	503	Barrett, A.G.	ORGN	632	Basu, S.	ENFL	514
Baranov, D.	PHYS	154	Barrett, A.G.	PHYS	365	Basu, S.	ENFL	529
Barasa, L.	MEDI	400	Barrett, C.J.	COLL	313	Basuray, S.	MPPG	44
Barashkov, N.	ENVR	635	Barrett, C.J.	COLL	424	Basurrah, A.	ANYL	155
Barashkov, N.	PMSE	517	Barrett, C.J.	PMSE	234	Batamack, P.T.	ENFL	100
Barati Ghahfarokhi, R.	ENFL	49	Barrett, C.J.	PMSE	553	Bataweel, M.A.	ENFL	427
Barati Ghahfarokhi, R.	ENFL	370	Barrett, C.	ORGN	609	Bates, C.	POLY	234
Baratta, W.	CATL	210	Barrett, D.	PROF	11	Bates, F.S.	CHED	35
Barazesh, J.M.	ENVR	525	Barrett, L.	CATL	173	Bates, M.	PHYS	446
Barbatti, M.	COMP	558	Barrett, S.	CHED	38	Bathe, M.	PHYS	47
Barbeau, X.	MEDI	184	Barrett, T.	BIOL	30	Bathe, M.	PHYS	403
Barbeau, X.	ORGN	366	Barrett, T.	MEDI	204	Bathe, M.	PHYS	509
Barber, H.	COLL	309	Barrientos, M.	INOR	512	Bathe, M.	PMSE	743
Barber, J.	ORGN	235	Barrios, A.M.	ORGN	260	Batista, E.R.	ENFL	558
Barber, L.B.	ENVR	49	Barrios, A.C.	CHED	36	Batista, E.R.	INOR	420
Barber, L.B.	ENVR	732	Barrios, A.C.	ENVR	424	Batista, E.R.	NUCL	81
Barber, R.	ENVR	183	Barron, B.S.	NUCL	14	Batista, V.S.	CATL	368
Barber, R.	PMSE	144	Barron, R.	ANYL	156	Batista, V.S.	COMP	264
Barber, S.	CELL	50	Barros, M.	PMSE	371	Batista, V.S.	COMP	265
Barber, S.	ENVR	363	Barrow, M.	ENVR	300	Batista, V.S.	COMP	485
Barberio, A.	COLL	466	Barry, M.E.	PMSE	647	Batista, V.S.	COMP	486
Barberio, A.	COLL	568	Barry, T.A.	AGRO	77	Batista, V.S.	COMP	543
Barberis, M.	MEDI	330	Barta, K.	CELL	11	Batista, V.S.	PHYS	417
Barbetta, A.	PMSE	673	Barteau, K.	POLY	625	Batiste, D.	CHED	403
Barbiellini, B.	COMP	11	Barteau, K.P.	PMSE	584	Batool, S.	ANYL	379
Barboiu, M.	COLL	395	Bartek, J.	CATL	288	Batra, N.	INOR	359
Barboiu, M.	ORGN	508	Bartelt, N.C.	INOR	140	Batra-Safferling, R.	COMP	146
Barchi, J.J.	CARB	53	Bartelt-Hunt, S.	ENVR	163	Batsomboon, P.	ORGN	462
Bard, J.	INOR	264	Bartelt-Hunt, S.	ENVR	245	Battaglia, B.	CHED	274

Battaglia, S.X.	INOR	452	Beaudoin, G.	BIOL	305	Bejaoui, S.	PHYS	420
Batteas, J.	ANYL	373	Beaumont, K.	MEDI	151	Bekas, C.	COMP	101
Battigelli, A.	PMSE	241	Beaumont, N.	ENFL	387	Bekçioğlu-Neff, G.	PHYS	324
Bauchy, M.	GEOC	40	Becalski, A.	AGFD	11	Beker, W.	COMP	306
Baudys, J.	ANYL	489	Becher Nienhaus, B.	PMSE	75	Beladi-Bebahani, S.	ANYL	258
Bauer, M.	COMP	226	Becher Nienhaus, B.	POLY	175	Belak, J.	MPPG	113
Bauer, M.	MEDI	159	Becica, J.	INOR	22	Belanger, J.M.	COLL	68
Bauer, M.	GEOC	48	Beck, J.P.	MEDI	321	Belanger, R.M.	CHED	167
Bauer, M.	BIOL	94	Beck, J.P.	MEDI	330	Belbruno, J.J.	POLY	474
Bauer, T.A.	PMSE	640	Beck, J.J.	AGRO	178	Belce, Y.	PMSE	182
Bauer, T.A.	POLY	186	Beck, J.J.	AGRO	213	Belcher, A.M.	ENFL	513
Bauerfeind, E.	ENVR	83	Beck, J.J.	AGRO	214	Belding, L.	ORGN	667
Baumann, A.	NUCL	68	Beck, J.J.	AGRO	216	Belding, L.	PHYS	425
Baumann, E.	ENVR	356	Beck, J.J.	AGRO	217	Belecki, K.	ORGN	206
Baumer, T.	NUCL	48	Beck, J.J.	AGRO	274	Belford, R.E.	CINF	52
Baumer, T.	NUCL	49	Beck, J.	AGFD	330	Belford, R.E.	CINF	114
Baur, S.	AGRO	110	Beck, W.F.	PHYS	404	Belh, S.	ORGN	444
Bauschlicher, C.	PHYS	529	Beck, W.F.	PHYS	511	Belh, S.	ORGN	445
Bauschlicher, C.	PMSE	628	Becke, A.D.	PHYS	547	Belh, S.	ORGN	449
Bauser, M.	MEDI	272	Becker, D.F.	BIOL	47	Béliveau, C.	AGRO	310
Bautista, A.	PHYS	500	Becker, M.	ANYL	472	Belkova, B.	AGFD	42
Bautista, M.	PROF	25	Becker, M.	CELL	43	Bell, A.T.	CATL	245
Baveghems, C.L.	COLL	240	Becker, M.	COLL	752	Bell, A.T.	ENFL	442
Baveghems, C.L.	COLL	433	Becker, M.	PMSE	76	Bell, D.	INOR	391
Bavik, L.	COLL	78	Becker, M.	PMSE	98	Bell, H.L.	INOR	260
Bawendi, M.G.	PHYS	128	Becker, M.	PMSE	143	Bell, I.M.	MEDI	215
Bawendi, M.G.	PHYS	271	Becker, M.	POLY	69	Bell, J.	AGRO	240
Bawendi, M.G.	PHYS	406	Becker, S.	ORGN	443	Bell, J.A.	ENVR	169
Baxter, E.T.	ANYL	81	Beckett, D.	COMP	492	Bell, L.	CHED	30
Baxter, J.B.	ENFL	332	Beckett, D.	PHYS	480	Bell, M.	MEDI	206
Baxter, J.B.	ENFL	388	Beckham, G.	CATL	361	Bell, M.	CHED	161
Baxter, R.	ORGN	248	Beckham, G.	CATL	403	Bell, O.	MEDI	149
Baxter, R.	ORGN	450	Beckham, G.	CATL	405	Bell, O.	MEDI	292
Bay, K.	ORGN	501	Beckham, G.	CATL	413	Bell, P.T.	CHED	233
Bayatpour, S.	BIOL	164	Beckham, G.	CELL	3	Bell, T.	INOR	647
Bayden, A.S.	CHED	440	Beckham, G.	COMP	107	Bellamri, M.	TOXI	11
Bayden, A.S.	COMP	325	Beckham, G.	COMP	439	Bellamri, M.	TOXI	91
Bayer, H.	AGRO	51	Beckham, G.	ENVR	448	Bellavia, S.	NUCL	10
Bayless, L.	CHED	181	Beckmann, T.J.	COLL	191	Bellier, M.	GEOC	48
Bayliff, K.	INOR	139	Becknell, N.C.	MEDI	358	Belling, J.N.	COLL	567
Baylon, J.	COMP	298	Becknell, N.	CATL	471	Belling, J.N.	INOR	579
Bayly, C.I.	COMP	423	Becnel, J.J.	AGRO	145	Belling, J.N.	PMSE	518
Bayne, M.	COMP	6	Bedford, M.T.	MEDI	54	Belling, J.N.	ENVR	517
Bayne, M.	COMP	234	Bedford, M.T.	MEDI	292	Bello, D.	ENVR	753
Bayne, M.	PHYS	210	Bedford, N.	CATL	495	Bello, D.	INOR	378
Bayne, M.	PHYS	485	Bedi, D.	ENVR	621	Bellshaw, D.	PHYS	9
Baysinger, G.	CINF	112	Bedi, D.	INOR	171	Bellshaw, D.	PHYS	11
Bazan, N.G.	MEDI	141	Bedi, M.	TOXI	83	Bellshaw, D.	PHYS	336
Bazant, M.Z.	PHYS	16	Bednar, A.J.	ENVR	598	Bell-Taylor, A.	INOR	30
Bazant, M.Z.	PHYS	18	Bednar, T.	ORGN	158	Bellucci, M.	COLL	508
Bazant, M.Z.	PHYS	65	Bedrossian, M.	MPPG	104	Belmar, J.	MEDI	301
Bazant, M.Z.	PHYS	505	Bedrov, D.	PHYS	528	Belmona, D.	MEDI	181
Bazant, M.Z.	PHYS	530	Beekman, J.K.	AGFD	11	Belmont, B.L.	PROF	14
Bazant, M.Z.	PHYS	533	Beeler, A.B.	ANYL	457	Belmonte, A.	COLL	588
Bazant, M.Z.	PHYS	534	Beeler, A.B.	COMSCI	8	Belosludov, R.	INOR	370
Bazilio, A.	ENVR	450	Beeler, A.B.	ORGN	167	Belov, V.N.	ORGN	256
Bazilio, A.	ENVR	777	Beeler, A.B.	ORGN	398	Belowich, M.	POLY	524
Bazin, M.	ORGN	173	Beeler, A.B.	ORGN	633	Beltramo, M.	COMP	433
Bazrouk, M.	MEDI	246	Been, F.	ENVR	512	Beltramo, P.J.	COLL	643
Bazuin, C.	ANYL	117	Been, F.	ENVR	790	Beltran, L.	AGFD	239
Bazuin, C.	POLY	241	Beer, P.	ORGN	419	Beltrán, D.	AGFD	280
Bazzi, A.A.	CHED	80	Beers, K.	POLY	132	Belval, J.	CARB	35
Bazzi, A.A.	CHED	155	Beers, K.	POLY	216	Ben, L.	ENFL	352
Bazzi, A.A.	CHED	157	Beerthuis, R.	CATL	374	Benamara, M.	ENFL	117
Bazzi, H.S.	CATL	302	Beeson, B.	COLL	401	Benavides, G.A.	MEDI	302
Bazzi, J.	CHED	80	Beetham, P.	AGFD	342	Benayas, A.	COLL	525
Bazzi, J.	CHED	157	Beezer, D.	PMSE	49	Benayoun, S.	COLL	339
Bazzi, J.A.	CHED	155	Beezer, D.	PMSE	118	Benchama, O.	MEDI	60
Bazzi, H.S.	POLY	333	Beffa, R.S.	AGRO	73	Benchama, O.	MEDI	87
Bazzi, H.S.	POLY	415	Beffa, R.S.	AGRO	100	Bencherif, S.A.	POLY	15
Bazzi, H.S.	POLY	428	Beffa, R.S.	AGRO	103	Benchimol, M.	ANYL	538
Bazzi, H.S.	POLY	435	Begay, S.C.	COMP	393	Bencomo, J.	POLY	504
Be, N.A.	BIOL	91	Begliarbekov, M.	CHED	287	Bender, A.	CINF	125
Be, N.A.	BIOL	92	Begliarbekov, M.	ENFL	296	Bender, A.	CINF	138
Beach, S.	ENVR	529	Begoyan, V.	ORGN	395	Bender, A.	CINF	159
Beach, S.	INOR	516	Begoyan, V.	TOXI	37	Bender, A.	CINF	169
Beach, S.	MEDI	204	Begum, S.	INOR	463	Bender, A.	COMP	437
Beach, S.	MEDI	437	Begum, S.	INOR	466	Bender, A.	COMP	532
Beagan, D.M.	INOR	542	Behabtu, N.	AGFD	281	Bender, A.	MEDI	242
Beal, P.A.	BIOL	43	Beharaj, A.	POLY	430	Bender, A.	TOXI	87
Beal, P.A.	BIOL	308	Behera, R.N.	COMP	260	Bender, A.	TOXI	104
Beaman, K.	MEDI	158	Behler, J.	COMP	180	Bender, D.M.	MEDI	321
Beamish, C.R.	BIOL	300	Behm, A.	CARB	61	Bender, J.A.	PHYS	5
Beams, R.	PMSE	271	Behrend, C.J.	ANYL	411	Bender, J.A.	PHYS	335
Beams, R.	PMSE	273	Beidler, J.	CELL	26	Benderskii, A.V.	COLL	802
Beane, G.	PHYS	237	Beil, S.B.	ORGN	130	Bendia, A.	ORGN	616
Beard, M.C.	ENFL	214	Beil, S.B.	ORGN	14	Bendiak, B.	CARB	11
Beard, M.C.	ENFL	398	Beil, S.B.	ORGN	17	Benedikter, M.	INOR	93
Beard, M.C.	PHYS	578	Beio, M.L.	BIOL	264	Beneker, C.	MEDI	179
Bearden, D.	PMSE	383	Beirne, J.	COLL	140	Benenato, K.	MEDI	445
Bearden, M.	ENFL	80	Beisel, C.	AGFD	338	Benetti, E.	PMSE	190
Beaucage, P.	PMSE	585	Beitle, R.	CATL	317	Benhaim, H.	COLL	348
Beaucage, P.A.	PMSE	584	Beitle, R.	CATL	495	Beni, Y.	POLY	323

Benicewicz, B.C.	PMSE	70	Berhow, M.A.	AGFD	247	Beuning, P.J.	COMP	375
Benicewicz, B.C.	PMSE	422	Beria, I.	MEDI	365	Beuning, P.J.	COMP	393
Benicewicz, B.C.	POLY	349	Berindan-Neagoe, I.	MEDI	242	Beuning, P.J.	TOXI	71
Benicewicz, B.C.	POLY	467	Berings, A.	POLY	423	Beuscart, J.	ORGN	594
Benin, B.	BIOL	205	Berk, J.R.	SCHB	12	Beutner, G.	ORGN	339
Ben-Itzhak, I.	PHYS	318	Berkebach, T.C.	PHYS	215	Bevan, M.A.	COLL	416
Ben-Itzhak, I.	PHYS	440	Berkeley, R.	PROF	40	Bevernaegie, R.	INOR	64
Benjamin, S.E.	COLL	174	Berkowitz, D.B.	BIOL	264	Bewersdorf, J.	PMSE	200
Benjamin, S.E.	COLL	504	Berkowitz, M.L.	ENVR	767	Bexis, P.	PMSE	59
Benkaddour, S.	ENVR	473	Berks, A.	CHAL	1	Bexis, P.	PMSE	520
Bennati, M.	BIOL	142	Berks, A.H.	SCHB	29	Beydoun, H.	ENFL	23
Benner, B.A.	ANYL	545	Berl, A.	ORGN	537	Beyenal, H.	ENVR	251
Bennet, A.	MEDI	82	Berlin, J.M.	COLL	52	Beyene, A.	BIOL	11
Bennett, C.	CARB	50	Berlin, J.M.	COLL	366	Beyer, M.	CHED	31
Bennett, C.	CARB	51	Berlin, J.M.	COLL	707	Beyersdorf, M.	BIOL	195
Bennett, C.	CARB	52	Berlinguette, C.P.	ENFL	341	Beyzavi, M.	CATL	317
Bennett, C.	CARB	54	Berlinguette, C.P.	INOR	358	Beyzavi, M.	CATL	495
Bennett, C.	CARB	62	Berman, C.	BIOL	178	Beyzavi, M.	NUCL	51
Bennett, D.J.	MEDI	24	Berman, C.	BIOL	236	Bezdek, M.J.	INOR	26
Bennett, D.J.	MEDI	112	Bermejo De Val, R.	CATL	232	Bezemer, K.	ANYL	291
Bennett, D.	PHYS	49	Bermudez, M.	COMP	437	Bezhtentsev, V.	COMP	151
Bennett, J.	MEDI	160	Bermúdez Menendes, J.M.	ENVR	228	Bezhtentsev, V.	COMP	348
Bennett, J.	MEDI	266	Bernabei, M.	POLY	452	Bezpaiko, M.	INOR	225
Bennett, J.W.	ENVR	267	Bernabei, M.	POLY	605	Bezpaiko, M.	INOR	517
Bennett, K.	PHYS	96	Bernardes, G.	ORGN	538	Bezpaiko, M.	INOR	520
Bennett, K.	PHYS	274	Bernardi, R.C.	COMP	258	Bhadouriya, S.	PMSE	120
Bennett, M.	MEDI	370	Bernardi, R.C.	COMP	273	Bhadoria, R.	BIOL	255
Bennett, N.	BIOL	208	Bernards, M.	AGRO	104	Bhadoria, R.	CATL	202
Bennett, R.M.	AGRO	384	Bernath, P.F.	PHYS	312	Bhal, S.K.	AGRO	224
Bennick, R.	GEOC	21	Berndsen, Z.	CARB	73	Bhalsod, G.	ENVR	156
Bennion, B.J.	BIOL	91	Bernèche, S.	COMP	70	Bhan, A.	CATL	164
Bennion, B.J.	BIOL	92	Bernhardt, T.	PHYS	322	Bhan, A.	CATL	244
Benoit, D.	INOR	210	Bernier, D.	AGRO	208	Bhan, A.	CATL	257
Benoit, G.	ORGN	270	Bernier, N.A.	CHED	240	Bhan, A.	CATL	442
Benoit, G.	ORGN	271	Bernier, U.R.	AGRO	124	Bhandari, A.	MEDI	2
Benowitz, A.B.	MEDI	25	Bernier, U.R.	AGRO	125	Bharadwaj, V.S.	CELL	2
Benson, K.	PMSE	498	Bernier, U.R.	AGRO	127	Bharadwaj, V.S.	ENFL	299
Benson, K.R.	COLL	278	Bernier, U.R.	AGRO	360	Bhargava, R.	AGFD	169
Bentham, S.	ENVR	54	Bernier, W.	PMSE	804	Bhargava, R.	POLY	445
Bento, P.	CINF	80	Bernkop-Schnürch, A.	COLL	546	Bharti, N.	CINF	96
Benton, N.M.	POLY	345	Berreau, L.M.	INOR	5	Bhasin, M.	CATL	237
Bentz, K.C.	POLY	115	Berreau, L.M.	INOR	708	Bhaskar, D.	ENVR	147
Benvenuto, M.A.	ENVR	754	Berrie, C.L.	MPPG	106	Bhat, A.P.	ENVR	458
Benware, S.	POLY	464	Berritt, S.	CHED	82	Bhat, S.	CINF	41
Benyettou, F.	CHED	277	Berry, J.F.	INOR	544	Bhatia, S.	COLL	775
Benz, S.	CARB	34	Berry, K.	AGRO	38	Bhatia, S.R.	PMSE	435
Bequette, M.	CHED	31	Berry, M.T.	COMP	479	Bhatia, S.R.	PMSE	564
Bera, S.	COLL	272	Berry, N.	ORGN	563	Bhatt, A.	MEDI	128
Beratan, D.N.	ANYL	383	Berry, R.S.	PHYS	126	Bhatt, A.	MEDI	129
Beratan, D.N.	PHYS	400	Berry, S.	PMSE	784	Bhattacharjee, S.	COLL	140
Berbeco, R.	COLL	614	Bertagni, A.	GEOC	37	Bhattacharya, A.	COMP	580
Berben, L.A.	INOR	236	Bertasi, F.	ENFL	316	Bhattacharya, A.	BIOL	225
Berben, L.A.	INOR	651	Bertheloot, D.	MEDI	4	Bhattacharya, S.	BIOL	235
Berberich, J.	ENVR	58	Berthelsen, P.	AGRO	57	Bhattar, S.	CATL	134
Berberich, J.	ENVR	196	Bertino, M.	COLL	507	Bhattar, S.	ENFL	98
Bercaw, J.E.	INOR	214	Bertocchi, M.J.	PMSE	476	Bhattarai, A.	COMP	25
Berchel, M.	COLL	544	Bertocchi, M.J.	PMSE	748	Bhaumik, J.	COLL	96
Berda, E.B.	PMSE	231	Bertozzi, C.R.	ANYL	320	Bhise, N.	PMSE	518
Berda, E.B.	POLY	463	Bertozzi, C.R.	CARB	108	Bhisetti, G.R.	COMP	110
Berda, E.B.	POLY	464	Bertozzi, C.R.	POLY	495	Bhisetti, G.R.	COMP	383
Berden, G.	NUCL	53	Bertrand, G.	INOR	618	Bhoraskar, S.	BIOL	57
Berellini, G.	COMP	110	Bertrand, G.	INOR	621	Bhowmick, I.	INOR	223
Berellini, G.	COMP	383	Bertrand, X.	ORGN	194	Bhowmick, I.	INOR	711
Berenguer, J.	ENFL	276	Bertucci, M.A.	CHED	202	Bhowmik, P.	COLL	214
Bereznak, J.	AGRO	344	Bertucci, M.A.	CHED	318	Bhoyate, S.D.	ENFL	240
Berezovska, I.	POLY	502	Bertucci, M.A.	ORGN	298	Bhoyate, S.D.	ENFL	242
Berg, I.	AGFD	45	Bertuzzi, D.L.	PMSE	335	Bhupathiraju, N.K.	CHED	74
Berg, J.C.	COLL	559	Berube, A.	CHED	237	Bhupathiraju, N.K.	MEDI	419
Bergbreiter, D.E.	POLY	415	Berube, C.	ORGN	364	Bhupathiraju, N.	MEDI	420
Bergbreiter, D.	POLY	426	Berube, C.	ORGN	366	Bhuvanesh, N.S.	INOR	431
Berge, N.D.	ENVR	294	Berube, C.	ORGN	660	Bi, J.	ANYL	496
Berger, A.	ENVR	430	Besenius, P.	PMSE	768	Bi, L.	MEDI	221
Berger, M.	CHED	229	Besenius, P.	POLY	120	Bi, S.	AGFD	348
Berger, M.	CHED	365	Besenius, P.	POLY	472	Bi, X.	ENVR	12
Berger, R.F.	COMP	335	Besmann, T.M.	I&E	10	Bi, Y.	ENFL	475
Bergeron, J.	INOR	591	Best, R.B.	COMP	248	Bi, Y.	ENVR	489
Bergeron, L.	MEDI	1	Beste, A.	CATL	223	Biagi, J.	CINF	17
Bergeron, P.	MEDI	278	Beta, I.A.	CHED	391	Bian, J.	CATL	277
Berglund, L.	CELL	34	Betancort, J.M.	MEDI	370	Bian, K.	TOXI	45
Berglund, L.	COLL	69	Betley, T.	INOR	70	Bian, K.	TOXI	46
Bergman, R.G.	INOR	216	Betley, T.	INOR	623	Bian, P.	PMSE	83
Bergman, R.G.	INOR	445	Bett, A.	COLL	169	Bian, Z.	MEDI	301
Bergmann, U.	PHYS	58	Bettinger, C.J.	ANYL	276	Bianco, K.E.	CHAL	15
Bergmann, U.	PHYS	340	Bettinger, C.J.	PMSE	505	Bianculli, R.	PMSE	603
Bergner, J.	PHYS	370	Beuming, T.	MEDI	308	Biannic, B.	MEDI	26
Bergo, C.H.	CHED	371	Beuning, P.	COMP	361	Biasin, E.	PHYS	111
Bergo, C.H.	CHED	384	Beuning, P.	TOXI	59	Bicer, E.	ENFL	409
Bergonzini, G.	ORGN	169	Beuning, P.	TOXI	60	Bickel, E.	CATL	234
Bergqvist, S.	MEDI	282	Beuning, P.	TOXI	63	Bickel, J.	AGRO	53
Bergstrom, L.	CELL	65	Beuning, P.	TOXI	66	Bickelhaupt, F.	COMP	290
Bergstrom, L.	CELL	66	Beuning, P.J.	COMP	351	Bickelhaupt, F.	ORGN	243
Berhe, Z.S.	MEDI	81	Beuning, P.J.	COMP	356	Bickler, J.R.	MEDI	421
Berhow, M.A.	AGFD	55	Beuning, M.A.	COMP	369	Bickler, J.R.	MEDI	423

Biddle, M.	PHYS	382	Black, J.	PHYS	22	Boda, K.	COMP	156
Biebl, F.	INOR	234	Black, R.	PMSE	62	Boda, K.	COMP	225
Biechele-Speziale, J.A.	ANYL	504	Black, S.K.	ENFL	177	Boddu, V.	AGFD	283
Biederman, M.	COMP	343	Blackburn, K.	POLY	68	Boddy, L.G.	AGRO	144
Biedermann, M.	CATL	212	Blacker, A.	CATL	209	Bode, J.W.	ORGN	6
Biegert, J.	PHYS	207	Blackmore, S.	POLY	312	Bode, J.W.	ORGN	607
Bielawski, C.	INOR	259	Blackwell, C.	POLY	263	Boden, S.	COLL	343
Bieliauskas, A.	ORGN	586	Blackwell, H.E.	BIOL	299	Bodenreider, C.	ENVR	736
Bielinski, D.F.	AGFD	21	Blair, A.	POLY	490	Bodenschatz, C.J.	CATL	6
Bielinski, D.F.	AGFD	24	Blair, I.A.	TOXI	70	Bodine, D.	COLL	35
Bielski, R.	CARB	60	Blair, I.A.	TOXI	103	Bodkin, M.	MEDI	309
Bielski, R.	CARB	63	Blair, P.M.	BIOL	53	Bodner, G.M.	CHED	425
Bienborn, M.	ORGN	296	Blair, R.G.	ORGN	219	Bodrenko, I.	COMP	293
Bienski, L.D.	CHED	285	Blake, G.A.	PHYS	560	Bodrenko, I.	COMP	468
Bienstock, R.J.	CINF	42	Blake, J.F.	MEDI	144	Boebel, T.A.	AGRO	172
Bierbaum, V.M.	PHYS	455	Blake, J.	COLL	35	Boebinger, M.	CATL	24
Biernesser, A.B.	INOR	643	Blakemore, J.D.	INOR	692	Boebinger, M.	PRES	29
Biewer, M.C.	COLL	626	Blaker, J.J.	POLY	52	Boechler, N.	PMSE	50
Biewer, M.C.	POLY	354	Blakney, G.T.	ENFL	155	Boegge, L.	CHED	401
Bigdelfi, A.	COLL	766	Blanchard, J.D.	CHED	358	Boehler, H.	PMSE	599
Bigdelou, P.	CARB	79	Blanchfield, S.	AGRO	227	Boehm, M.	MEDI	151
Bigger, S.W.	CHED	93	Blanco, A.	INOR	464	Boehman, A.L.	ENFL	181
Bigger, S.W.	CHED	352	Blanco, A.	INOR	465	Boehmler, D.	ANYL	96
Biggs, C.I.	PMSE	633	Blanco, G.	CHED	271	Boehnke, N.	COLL	466
Bihani, M.	ORGN	470	Bland, D.C.	AGRO	97	Boehnke, N.	COLL	775
Bihari, T.	ORGN	181	Blank, D.A.	CHED	35	Boening, K.	PMSE	728
Bikkina, P.K.	COLL	711	Blanke, G.	CINF	10	Boer, R.E.	BIOL	132
Bilderback, C.	COMP	342	Blankenship, R.E.	PHYS	51	Boesel, L.	POLY	124
Bilger, D.	POLY	381	Blankschtein, D.	COLL	577	Baggins, S.	ENVR	292
Bill, J.	COLL	490	Blankschtein, D.	COMP	418	Boggs, L.N.	MEDI	330
Billen, D.	AGRO	137	Blaschke, T.	CINF	170	Boggs, Z.T.	COLL	204
Billimoria, K.	PMSE	63	Blaschke, T.	COMP	99	Bogin, B.A.	COMP	327
Bin, L.	ENVR	77	Blasius, C.K.	INOR	674	Boglaienko, D.	ENVR	465
Binder, A.J.	ENVR	29	Blass, B.E.	MEDI	65	Boglaienko, D.	NUCL	34
Bindra, J.K.	COLL	44	Blass, B.E.	MEDI	106	Bogy, M.S.	MEDI	372
Bingham, A.	POLY	494	Blattner, K.M.	MEDI	106	Bohac, T.	MEDI	47
Bingham, A.W.	POLY	51	Blau, S.	PHYS	49	Bohaty, R.F.	AGRO	229
Bingham, J.T.	ORGN	246	Blaudeau, L.B.	COLL	203	Bohaty, R.F.	AGRO	230
Bingham, P.	MEDI	282	Blayo, A.	MEDI	71	Bohaty, R.F.	AGRO	333
Bingner, R.	AGRO	16	Blayo, A.	ORGN	569	Bohn, L.M.	MEDI	275
Binkley, J.	AGFD	326	Blazquez, A.M.	AGFD	152	Bohn, P.W.	ANYL	267
Binkley, J.	ENVR	89	Blessing, W.A.	BIOL	46	Böhnke, H.	PHYS	327
Bin Md. Zain, M.	AGFD	45	Blessing, W.A.	BIOL	287	Bohnsack, M.	PHYS	391
Bio, M.M.	ORGN	127	Blessing, W.A.	PMSE	424	Boika, A.	ANYL	88
Biosca, M.	ORGN	307	Blight, B.	INOR	688	Boika, A.	ANYL	142
Biosca, M.	ORGN	477	Blight, B.	POLY	444	Boika, A.	ANYL	146
Birchall, K.	MEDI	100	Blight, B.	POLY	558	Boika, A.	INOR	103
Bird, M.J.	ENFL	24	Blincoe, W.	ANYL	560	Boika, A.	INOR	493
Birdsall, D.	I&EC	5	Bloch, E.D.	INOR	227	Boily, J.	CATL	315
Biriukov, D.	GEOC	29	Bloch, E.D.	INOR	228	Bok, F.	NUCL	28
Birk, A.M.	MEDI	94	Bloch, E.D.	INOR	229	Bokare, A.	ENFL	16
Birmingham, B.	CATL	446	Bloch, E.D.	INOR	244	Boker, A.	POLY	229
Biró, E.	CHED	435	Bloch, E.D.	INOR	484	Boleslav, B.	ANYL	150
Birss, V.I.	COLL	421	Bloch, E.D.	INOR	626	Boll, R.A.	NUCL	6
Bisaha, J.	AGRO	344	Bloch, E.D.	INOR	629	Bolle, N.	POLY	437
Bisbee, H.	BIOL	297	Bloch, E.D.	INOR	750	Bollinger, W.	CHED	300
Bisceglia, K.J.	ENVR	788	Bloch, E.D.	INOR	752	Bollini, P.	CATL	257
Bischoff, F.	MEDI	124	Bloch, J.	ANYL	61	Bologa, C.G.	CINF	115
Bish, M.	AGRO	269	Block, A.	AGRO	218	Bologa, C.G.	CINF	140
Bishop, A.	CHED	332	Block, A.	AGRO	219	Boloor, A.	MEDI	370
Bishop, K.J.	COMSCI	7	Blom, J.	ORGN	353	Bolt, D.	ORGN	634
Bismarck, A.	PMSE	276	Blonder, N.	ANYL	545	Boltersdorf, J.	COLL	742
Bismarck, A.	PMSE	278	Bloomquist, J.R.	AGRO	1	Bolton, E.	CHAS	37
Bismarck, A.	PMSE	696	Bloomquist, J.R.	AGRO	124	Bolton, E.	CINF	1
Bisquert, J.	ENFL	507	Bloomquist, J.R.	AGRO	125	Bolton, E.	CINF	38
Bisquert, J.	MPPG	4	Bloomquist, J.R.	AGRO	127	Bolton, E.	CINF	79
Bissell, K.	AGRO	52	Bloomquist, J.R.	AGRO	153	Bolton, E.	CINF	134
Bissessur, R.	POLY	391	Bloomquist, J.R.	AGRO	360	Bolton, J.L.	TOXI	9
Bissett, K.	ORGN	617	Blough, R.	CHED	66	Bolzani, V.D.	CINF	4
Bisson, P.J.	PHYS	483	Blough, R.	CHED	94	Bomann, B.H.	POLY	320
Biswal, S.L.	COLL	799	Blount, P.	CHED	276	Bond, J.	CATL	382
Biswal, S.L.	ENFL	52	Bluck, J.P.	MEDI	346	Bond, J.	CATL	404
Biswas, A.	AGFD	244	Bluemel, J.	INOR	615	Bond, M.R.	CARB	49
Biswas, A.	AGFD	283	Blum, F.D.	PMSE	595	Bonds, J.	AGRO	78
Biswas, A.	AGFD	321	Blum, L.J.	ANYL	204	Bone, R.A.	PHYS	180
Biswas, K.	INOR	436	Blum, M.	ANYL	236	Bone, R.	CHAL	6
Biswas, S.	PHYS	522	Blum, S.	ANYL	265	Bone, R.	CHAL	10
Biswas, S.	PHYS	527	Blum, S.	INOR	91	Bonezzi, J.A.	ANYL	88
Biswas, S.	CATL	492	Blum, S.	ORGN	90	Bonezzi, J.A.	ANYL	146
Biswas, S.	INOR	408	Blumberg, B.	ENVR	507	Bonezzi, J.A.	INOR	103
Biswas, S.	ORGN	362	Boateng, L.	ENVR	294	Bongiardinna, N.J.	POLY	418
Bitteen, J.S.	ANYL	66	Boaz, N.C.	INOR	668	Boniecki, B.	CHED	226
Bitter, H.	CATL	104	Bobbala, R.	MEDI	65	Bonifazi, A.	MEDI	139
Bitter, H.	CATL	381	Bobbie, E.	POLY	237	Bonitatibus, S.	CHED	240
Bittinger, K.	AGFD	317	Bobbitt, J.M.	ANYL	269	Bonitatibus, S.	CHED	249
Bittner, C.	POLY	451	Bobeca, S.C.	ORGN	160	Bonizzoni, M.	ANYL	75
Bittner, E.R.	PHYS	270	Bocarsly, A.B.	ENFL	13	Bonizzoni, M.	ENVR	53
Bittues, R.	INOR	133	Bocarsly, A.B.	ENFL	338	Bonizzoni, M.	ENVR	121
Bitzer, M.J.	CATL	210	Bochat, A.J.	ORGN	305	Bonizzoni, M.	ENVR	197
Bizhga, D.	PROF	39	Bock, D.C.	INOR	747	Bonizzoni, M.	ORGN	511
Black, A.	CHED	349	Bockstaller, M.R.	COLL	747	Bonn, M.	PHYS	151
Black, B.A.	CATL	403	Bockstaller, M.R.	PMSE	474	Bonn, M.	PHYS	565
Black, C.	MEDI	153	Bockus, A.T.	ORGN	424	Bonnaillie, L.	AGFD	161

Bonnardel, P.	POLY	155	Bou-Abdallah, F.	CHED	180	Bozkurt, A.	ANYL	328
Bonnaud, L.	PMSE	618	Bou-Abdallah, F.	CHED	446	Braams, S.	MEDI	4
Bonnet, P.	COMP	432	Boubals, N.	NUCL	54	Bracco, J.	GEOC	27
Bonnet, P.	COMP	433	Boubnov, A.	CATL	14	Bracco, J.	GEOC	37
Bono, M.S.	ENVR	52	Boubnov, A.	CATL	72	Bracewell, J.	PHYS	134
Bono, M.S.	ENVR	124	Bouchard, D.C.	ENVR	91	Bracken, A.K.	AGRO	143
Booksh, K.S.	ANYL	293	Boudreau, M.A.	MEDI	43	Bradbury, M.	COLL	54
Booksh, K.S.	ANYL	461	Boudreau, M.A.	MEDI	133	Bradbury, S.	AGRO	56
Boone, K.	COLL	410	Boudreau, M.A.	MEDI	134	Bradbury, S.	AGRO	293
Boone, S.	AGFD	329	Boudreau, M.A.	MEDI	418	Bradbury, S.P.	AGRO	57
Boons, G.	CARB	90	Bouet, N.	MPPG	39	Bradford, S.	ENVR	733
Boons, G.	CARB	93	Bouhana, K.	MEDI	144	Bradforth, S.E.	PHYS	5
Boons, G.	CARB	130	Boukhalov, D.	ENVR	803	Bradforth, S.E.	PHYS	329
Booth, M.	PMSE	625	Bouknight, E.L.	INOR	140	Bradley, L.	POLY	78
Borbulevych, O.	COMP	296	Boulanger, N.	CATL	315	Bradley, S.	PHYS	472
Borbulevych, O.	COMP	448	Bouldin, R.M.	ENVR	386	Bradlow, J.	ORGN	7
Borca, C.H.	COMP	539	Boulho, C.	AGRO	132	Bradshaw, G.A.	MEDI	374
Borch, T.	AGRO	318	Bouraoui, A.	COLL	544	Bradshaw, J.	ANYL	165
Borchers, T.H.	PMSE	234	Bourdeau, R.W.	COLL	697	Brady, M.	COMP	351
Borchers, T.H.	PMSE	553	Bourgault, J.	CARB	64	Brady, M.D.	INOR	555
Bordeianu, C.	COLL	299	Bourgeat-Lami, E.	POLY	109	Brady, M.D.	INOR	634
Bordeianu, C.	PMSE	424	Bourgeois, M.	CHED	407	Brady, M.F.	PMSE	316
Bordeianu, C.	PMSE	631	Bourin, C.	MEDI	50	Brady, P.N.	CHED	447
Bordeianu, C.	PMSE	784	Bourke, S.	POLY	486	Brady, S.F.	BIOL	133
Bordeianu, C.	PMSE	814	Bournez, C.	COMP	432	Braese, S.	CINF	29
Borders, A.N.	MEDI	330	Bousquet, M.	INOR	92	Braeuning, A.	AGFD	15
Barfecchia, E.	INOR	654	Bouteiller, L.	POLY	299	Braffman, N.R.	BIOL	233
Borgatta, J.	ENVR	543	Boutet, S.	PHYS	9	Braga, C.B.	PMSE	46
Borges, D.L.	ANYL	516	Boutet, S.	PHYS	11	Braga, C.B.	PMSE	442
Borgia, A.	ORGN	364	Boutet, S.	PHYS	336	Braga, D.	ENVR	451
Borguet, E.	COLL	499	Boutet, S.	PHYS	430	Braga, R.C.	CINF	24
Borguet, E.	ENFL	40	Boutin, Y.	MEDI	1	Braganza, J.F.	MEDI	282
Borguet, E.	GEOC	36	Boutsalis, P.	AGRO	72	Braganza, S.	ENVR	124
Borguet, Y.	PMSE	332	Bow, D.	MEDI	369	Bragg, A.E.	INOR	387
Borhan, B.	PHYS	464	Bowden, M.E.	GEOC	46	Braglia, L.	INOR	654
Borkiewicz, O.	GEOC	48	Bowen, K.H.	PHYS	241	Brahmchari, D.	ORGN	56
Borkin, D.	MEDI	84	Bowers, C.R.	CATL	142	Braicu, C.	MEDI	242
Borkowski, A.K.	MPPG	106	Bowers, C.R.	CATL	243	Brame, J.A.	ENVR	598
Borland, S.	MEDI	75	Bowes, E.	INOR	278	Brame, J.	COLL	269
Borne, A.	BIOL	250	Bowes, E.	INOR	694	Brame, J.	ENVR	279
Borne, K.	PHYS	318	Bowman, C.	PMSE	91	Brame, J.	ENVR	485
Borne, K.	PHYS	440	Bowman, C.	PMSE	171	Brame, J.	ENVR	834
Bornhoeft, L.	ANYL	325	Bowman, C.	PMSE	368	Branck, T.	AGFD	277
Bornstein, M.	INOR	271	Bowman, C.	PMSE	373	Branck, T.	AGFD	311
Borodin, O.	ANYL	248	Bowman, C.	PMSE	455	Brandao, J.	AGFD	29
Borodin, O.	ENFL	525	Bowman, C.	POLY	8	Brandao, J.	PHYS	572
Borodin, O.	PHYS	117	Bowman, C.	POLY	18	Brandecker, K.	PMSE	521
Boros, E.	INOR	428	Bowman, C.	POLY	79	Brander, P.	AGRO	191
Boroujerd, A.	MEDI	178	Bowman, C.	POLY	82	Brandhuber, B.J.	MEDI	144
Borra-Garske, M.	ORGN	36	Bowman, C.	POLY	153	Brandner, D.	ENVR	448
Borrego, P.	CINF	43	Bowman, C.	POLY	279	Brands, M.	MEDI	272
Borrelli, K.W.	MEDI	308	Bowman, C.	POLY	418	Brandt, A.K.	CHED	313
Borstad, G.	PHYS	186	Bowman, C.	POLY	432	Brandy, Y.S.	PROF	40
Bortolato, A.	MEDI	308	Bowman, C.	POLY	492	Brant, P.	PMSE	135
Bortoluzzi, J.	ORGN	351	Bowman, D.N.	COMP	205	Brasier, A.R.	MEDI	264
Borton, C.	AGRO	111	Bowman, G.R.	BIOL	301	Braslau, R.	POLY	405
Borts, D.	AGRO	293	Bowman, W.	CHED	268	Braten, M.N.	PMSE	108
Boruah, B.	CARB	93	Bowman, W.	ORGN	295	Braten, M.N.	PMSE	175
Borunda, T.	INOR	230	Bowron, D.	CATL	119	Braten, M.N.	PMSE	178
Boruvka, T.	INOR	580	Bowser, A.	INOR	439	Braud, I.	PHYS	133
Boruwa, J.	MEDI	65	Box, H.	COLL	621	Braun, E.	COMP	541
Borzych, B.	POLY	446	Boxer, S.G.	COLL	345	Braun, E.	ORGN	534
Bosch, I.	ANYL	64	Boyanov, M.	ENVR	261	Braun, F.	PHYS	445
Boscovic, D.	ENVR	35	Boyce, M.	CARB	27	Braun, G.B.	COLL	776
Bose, M.	ANYL	465	Boyd, D.	CHED	66	Braun, G.	INOR	324
Bose, R.	COLL	121	Boyd, E.	INOR	692	Braun, M.	ORGN	38
Bose, S.	PMSE	605	Boyd, H.	COMP	532	Braun, M.	CARB	99
Boselli, L.	COLL	566	Boydston, A.	POLY	583	Braun, P.V.	PMSE	385
Boselli, L.	COLL	768	Boydston, A.J.	INOR	261	Braun, P.V.	POLY	140
Boshoff, H.I.	MEDI	103	Boydston, A.J.	PMSE	32	Brauncker, W.A.	PMSE	23
Bosire, R.	PMSE	530	Boydston, A.J.	PMSE	50	Braunschweig, A.B.	COLL	115
Bosire, R.	POLY	423	Boydston, A.J.	PMSE	90	Braunschweig, H.	ORGN	587
Bosma, W.	COMP	374	Boydston, A.J.	PMSE	122	Braunstein, M.	MEDI	231
Bosque, I.	ORGN	168	Boydston, A.J.	POLY	36	Brausch, J.M.	AGRO	76
Bosque Martínez, I.	ORGN	170	Boydston, A.J.	POLY	232	Bravaya, K.B.	COMP	344
Bostan, V.	AGRO	108	Boyer, C.	INOR	439	Bravaya, K.B.	COMP	371
Boston, D.	INOR	182	Boyer, C.	PMSE	115	Bravaya, K.B.	COMP	560
Boston, D.J.	ENFL	17	Boyer, C.	POLY	88	Bravaya, K.B.	PHYS	457
Boston, D.J.	INOR	223	Boyer, R.D.	MEDI	330	Bravaya, K.B.	PHYS	484
Boström, J.	MEDI	7	Boyer, S.	CINF	8	Bravi, G.	MEDI	271
Bosworth, G.	INOR	742	Boyer, T.H.	ENVR	34	Bravo, K.	AGRO	96
Botello-Smith, W.	COMP	22	Boyer, T.H.	ENVR	35	Bravo, K.	ORGN	83
Botello-Smith, W.M.	COMP	469	Boyer, T.H.	ENVR	36	Bravo-Altamirano, K.	AGRO	172
Botello-Smith, W.M.	COMP	545	Boyer, T.H.	ENVR	747	Bravo-Altamirano, K.	ORGN	464
Bothner, B.	BIOL	262	Boyer, T.H.	ENVR	748	Bravo-Rodriguez, K.	COMP	491
Bothun, G.D.	COLL	5	Boyes, S.G.	POLY	351	Bravo-Rodriguez, K.	INOR	211
Bott, C.	ENVR	325	Boyette, C.D.	AGRO	330	Bravo-Suarez, J.J.	CATL	169
Bottegoni, G.	MEDI	306	Boyle, D.T.	COLL	148	Bray, D.	COMP	43
Bottger, E.C.	MEDI	378	Boyle, T.J.	CHED	1	Bray, D.	COMP	461
Botu, V.	COMP	582	Boyles, S.	AGRO	176	Brayden, D.J.	COLL	140
Bou-Abdallah, F.	BIOL	258	Boyne, D.	POLY	257	Brazil, S.	CHED	156
Bou-Abdallah, F.	CHED	49	Bozell, J.J.	CELL	1	Brazier-Hicks, M.	AGRO	71
Bou-Abdallah, F.	CHED	179	Bozell, J.J.	ENFL	363	Breault, D.	AGFD	310

Breen, C.	ORGN	127	Bromley, S.	PHYS	571	Bruce, A.E.	INOR	462
Breffke, J.	CHED	375	Bronich, T.K.	COLL	616	Bruce, A.E.	INOR	775
Brega, V.	ORGN	677	Bronkhorst, C.	MPPG	113	Bruce, B.	AGRO	225
Bregante, D.	CATL	172	Bronstein, L.	CHED	218	Bruce, M.R.	INOR	188
Brehm, C.	CHED	175	Bronstein, L.	CHED	219	Bruce, M.R.	INOR	462
Breinlinger, E.	MEDI	8	Bronstein, L.	COLL	296	Bruce, M.R.	INOR	775
Breinlinger, E.	MEDI	10	Brookhart, M.	INOR	340	Bruce, P.	PHYS	344
Breitkopf, C.	CATL	55	Brooks, A.F.	MEDI	381	Bruck, H.	POLY	454
Bremer, P.	COMP	267	Brooks, A.F.	MEDI	382	Bruckner, C.	PMSE	699
Bren, K.	INOR	2	Brooks, B.	COMP	507	Brudvig, G.W.	CATL	33
Brendler, V.	NUCL	28	Brooks, B.	COMP	508	Brudvig, G.W.	CATL	368
Breneman, C.M.	COMP	272	Brooks, H.	INOR	753	Brudvig, G.W.	CATL	370
Brener, I.	COLL	117	Brooks, J.T.	ANYL	329	Brudvig, G.W.	COMP	485
Brennaman, M.K.	INOR	358	Brooks, J.	SCHB	3	Brudvig, G.W.	ENVR	761
Brennan, C.R.	CHAS	20	Brooks, J.L.	MPPG	81	Bruefach, A.	COLL	428
Brennan, C.	AGRO	132	Brooks, J.C.	ANYL	11	Brugman, B.	PHYS	303
Brennan, P.	MEDI	266	Brooks, N.	HIST	32	Brumaghim, J.L.	INOR	186
Brennan, P.	MEDI	267	Brooks, C.L.	COMP	311	Brumer, P.W.	PHYS	272
Brennan, P.	MEDI	353	Brooun, A.	MEDI	282	Brummer, T.	MEDI	179
Brenneisen, P.	ANYL	280	Broqua, P.	MEDI	10	Brun, Y.	COLL	99
Brennessel, W.W.	INOR	275	Broqvist, P.	COMP	474	Brunelli, N.A.	CATL	12
Breslin, P.A.	AGFD	236	Brothers, E.N.	COMP	473	Brunelli, N.A.	CATL	271
Bressac, D.	MEDI	10	Brothers, R.C.	MEDI	117	Brunelli, N.A.	CATL	511
Bresser, D.	ANYL	250	Brotherton, C.A.	BIOL	111	Brunelli, N.A.	ENFL	413
Bressler, C.	PHYS	109	Brougham, D.	COLL	140	Bruner, A.	PHYS	90
Bressler, C.	PHYS	338	Brougham, D.	COLL	604	Bruner, S.	BIOL	166
Brethomé, F.M.	I&EC	47	Brougher, J.	SCHB	26	Bruner, S.	BIOL	305
Brethomé, F.M.	I&EC	56	Browe, M.A.	POLY	556	Brünken, S.	PHYS	367
Breton-Vega, A.	ANYL	246	Brown, A.	AGRO	82	Brunner, E.W.	INOR	14
Bretz, S.	CHED	3	Brown, A.	PMSE	339	Bruno, B.A.	INOR	749
Bretz, S.	WCC	19	Brown, A.E.	ORGN	60	Bruno, F.F.	POLY	452
Brewer, A.C.	ORGN	87	Brown, A.E.	POLY	330	Bruno, F.F.	POLY	560
Brewer, M.	COMP	24	Brown, A.E.	AGFD	329	Bruno, F.F.	POLY	605
Brewster, D.A.	INOR	256	Brown, A.E.	AGRO	284	Bruno, I.	CINF	12
Brewster, R.	TOXI	57	Brown, B.	PHYS	237	Bruno, I.	CINF	61
Breyta, C.M.	AGFD	324	Brown, C.	ANYL	490	Bruno, I.	CINF	82
Brian, R.	CHAS	33	Brown, C.R.	AGRO	298	Bruno, I.	CINF	108
Briand, J.	MEDI	25	Brown, C.R.	AGRO	315	Bruno, I.	CINF	136
Brichacek, M.	CARB	44	Brown, C.M.	INOR	227	Bruno, J.	NUCL	30
Bricker, L.D.	GEOC	10	Brown, D.	MEDI	37	Bruno, C.J.	ANYL	74
Bricker, W.	PHYS	47	Brown, D.G.	MEDI	7	Bruns, N.	POLY	124
Bricker, W.	PHYS	403	Brown, D.G.	MEDI	273	Bruns, R.F.	MEDI	321
Bricker, W.	PHYS	509	Brown, E.M.	PMSE	763	Bruns, S.	ENVR	136
Briddell, T.	AGRO	169	Brown, E.	ENVR	531	Brunton, D.	AGRO	72
Briddell, T.	AGRO	345	Brown, E.	CHED	171	Brus, J.	POLY	315
Bridges, C.A.	ENFL	524	Brown, E.	INOR	568	Brush, E.J.	CHED	237
Bridgmohan, C.N.	PHYS	6	Brown, E.	ENFL	375	Brush, E.J.	CHED	407
Brier, R.A.	MEDI	330	Brown, F.C.	ENVR	488	Brush, E.J.	CHED	423
Briere, D.M.	MEDI	144	Brown, G.J.	PHYS	314	Brushett, F.	ENFL	43
Briggs, M.	PMSE	7	Brown, G.	CHED	245	Brushett, F.	ENFL	275
Bright, E.R.	POLY	463	Brown, G.	CHED	41	Brushett, F.	I&EC	19
Brignole, E.	BIOL	142	Brown, G.	PMSE	465	Brutchey, R.L.	CATL	168
Briguglio, M.	CATL	81	Brown, H.	ANYL	51	Brutchey, R.L.	INOR	31
Brilmayer, R.	COLL	764	Brown, J.R.	POLY	275	Brutchey, R.L.	INOR	581
Brimacombe, K.	MEDI	302	Brown, J.T.	AGRO	178	Brutchey, R.L.	INOR	584
Brindle, P.A.	AGRO	43	Brown, J.	MEDI	151	Brutman, J.P.	POLY	199
Bringuier, S.	POLY	257	Brown, J.	TOXI	96	Bruton, R.	AGRO	216
Brinkman, H.	PMSE	684	Brown, J.C.	CATL	468	Brutschea, E.	ORGN	440
Bristow, L.	MEDI	50	Brown, J.E.	HIST	1	Bruzás, I.	COLL	649
Bristow, L.	MEDI	51	Brown, J.	PMSE	629	Bryan, J.C.	NUCL	57
Brito, A.	CARB	113	Brown, J.S.	POLY	488	Bryan, M.C.	ORGN	34
Brito, A.M.	CARB	112	Brown, K.	COLL	552	Bryan, T.	CHED	389
Brito, L.	MEDI	445	Brown, K.A.	COLL	82	Bryant, J.L.	SCHB	9
Britt, P.F.	ENFL	123	Brown, K.A.	PMSE	133	Bryant, S.	COLL	10
Britt, P.F.	ENFL	180	Brown, K.J.	CHAS	17	Bryant-Friedrich, A.C.	TOXI	83
Britt, R.D.	INOR	390	Brown, K.	INOR	109	Bryant-Friedrich, A.C.	WCC	20
Brittain, W.J.	INOR	385	Brown, L.E.	ORGN	652	Bryantsev, V.	COMP	40
Britten, T.	ORGN	233	Brown, L.E.	ORGN	335	Bryantsev, V.	POLY	572
Britz, A.	PHYS	109	Brown, L.E.	ORGN	398	Bryce, D.	ANYL	402
Britz, A.	PHYS	217	Brown, L.	COLL	25	Bryce, D.	COLL	455
Brković, B.	MEDI	95	Brown, M.F.	MEDI	319	Bryce, D.A.	ANYL	404
Brletic, P.A.	CHED	329	Brown, N.	ANYL	485	Bryce, R.A.	COMP	362
Broadbelt, L.J.	ENFL	305	Brown, P.A.	PHYS	545	Brye, K.R.	AGRO	15
Broaders, K.E.	CHED	322	Brown, P.	MEDI	345	Brylow, K.	BIOL	256
Broaders, K.E.	CHED	326	Brown, R.	ENVR	803	Bu, G.	COLL	130
Broaders, K.E.	PMSE	766	Brown, R.P.	ANYL	440	Bu, L.	ENFL	484
Brock, A.	AGRO	161	Brown, R.P.	COLL	513	Bubas, A.	NUCL	53
Brock, S.L.	COLL	356	Brown, S.	COLL	714	Bucchino, M.P.	PHYS	557
Brock, S.L.	MPPG	2	Brown, S.M.	I&EC	19	Bucci, A.J.	AGFD	140
Brockman, J.D.	NUCL	20	Brown, S.K.	TOXI	106	Buchanan, A.C.	ENFL	123
Brockman, J.D.	POLY	607	Brown, T.	PMSE	338	Buchanan, A.C.	ENFL	180
Broddefalk, J.	MEDI	320	Brown, T.	PMSE	169	Buchanan, E.A.	PHYS	328
Broderick, A.	PMSE	765	Brown, Z.	ANYL	252	Buchanan, R.M.	INOR	495
Broderick, B.	PHYS	371	Brown, Z.	PHYS	61	Buchanan, R.M.	INOR	503
Broderick, K.	NUCL	6	Browning, J.	POLY	292	Buchanan, R.M.	INOR	510
Brodeur, D.R.	CHED	411	Browning, N.D.	COLL	4	Buchard, A.	PMSE	125
Brodeur, G.M.	COLL	468	Brownsell, A.	YCC	5	Bucher, J.	COLL	503
Broer, D.	PMSE	368	Brown Wright, G.A.	CHED	414	Buchete, N.	COMP	508
Broer, R.	PHYS	328	Brox, D.	PHYS	445	Buchholz, L.	AGRO	82
Broere, D.	CATL	33	Broyde, S.	TOXI	43	Buchholz, L.	AGRO	122
Brok, E.	AGFD	158	Brozek, C.K.	INOR	653	Buchman, J.T.	ENVR	73
Brok, E.	COLL	405	Brozek, C.K.	PHYS	402	Buchmeiser, M.	ENFL	152
Brok, E.	COLL	772	Bruce, A.E.	INOR	188	Buchmeiser, M.	INOR	93

Buchmeiser, M.	INOR	297	Buriak, J.M.	POLY	511	Byers, J.A.	INOR	118
Buchner, M.	COLL	383	Burinskas, S.	ORGN	586	Byers, J.A.	INOR	294
Bucholtz, E.C.	CHED	62	Burk, C.	SCHB	31	Byers, J.A.	INOR	643
Bucholz, E.	PMSE	628	Burkard, M.R.	MEDI	144	Byers, J.A.	ORGN	77
Buchon, N.	AGRO	150	Burkart, M.D.	BIOL	90	Byers, J.A.	ORGN	100
Buck, E.	GEOC	58	Burke, E.G.	ORGN	247	Byers, J.A.	PMSE	58
Buck, E.	NUCL	38	Burke, J.H.	ENFL	24	Byers, J.A.	POLY	328
Buck, E.	NUCL	47	Burke, K.A.	PMSE	778	Byers, J.A.	POLY	331
Buck, M.E.	PMSE	430	Burke, K.A.	PMSE	760	Bykov, M.	PHYS	395
Buck, M.	COMP	147	Burke, K.	COMP	89	Bykova, E.	PHYS	395
Buckley, M.	ANYL	486	Burke, L.	ORGN	175	Bylaska, E.J.	ENVR	376
Buddha, S.	ENVR	711	Burke, N.A.	PMSE	453	Byler, D.	POLY	100
Buddingh, J.V.	PMSE	75	Burke, N.A.	POLY	174	Bylsma, M.	CARB	52
Buddingh, J.V.	PMSE	389	Burke, R.	ENFL	396	Byrd, G.	CHED	97
Buddingh', B.	POLY	489	Burke, R.	MEDI	178	Byrd, K.	CHED	351
Budhathoki-Uprety, J.	COLL	696	Burke, S.L.	CHED	208	Byrne, M.	COLL	792
Budhathoki-Uprety, J.	POLY	390	Burks, R.M.	PROF	21	Byrne, S.	TOXI	10
Budy, S.M.	POLY	604	Burnett, M.	INOR	574	Bysouth, S.	ORGN	214
Buehler, M.	COMP	188	Burnett, W.	CHED	233	Byth, K.	MEDI	4
Buehler, M.	PMSE	726	Burney-Allen, A.A.	ORGN	562	Byun, J.	ENVR	832
Buehler, S.K.	ANYL	149	Burnham, N.	ENFL	312	Byun, S.	ORGN	138
Buehler, S.K.	CHED	81	Burns, A.	PMSE	156	Byungjin, C.	ENFL	404
Buenau, K.E.	ENVR	671	Burns, F.	MEDI	46	Cabana, J.	ENFL	288
Bueno Lopez, R.	AGFD	97	Burns, J.D.	NUCL	21	Cabana, J.	ENFL	351
Buffa, J.	MEDI	434	Burns, K.	COLL	611	Cabana, J.	INOR	413
Bugarin, A.	MEDI	158	Burns, L.A.	COMP	539	Cabasso, M.	CHED	210
Buhrke, T.	AGFD	15	Burns, M.	CINF	53	Cabedo, L.	AGFD	344
Buhrlage, S.	MEDI	30	Burns, M.	TOXI	40	Cabelof, A.	INOR	543
Buhro, W.E.	COLL	680	Burns, N.Z.	COLL	345	Cabeza De Vaca, I.	CHED	379
Bui, H.S.	COLL	406	Burns, N.Z.	ORGN	374	Cabezas, J.	CHED	308
Bui, M.	MEDI	22	Burns, P.C.	NUCL	75	Cabigon, C.	INOR	697
Bui, M.H.	MEDI	26	Burridge, K.	POLY	16	Caboni, M.	MEDI	428
Bui, T.Q.	PHYS	192	Burrrington, J.D.	CATL	289	Cabral, H.	COLL	141
Bui, T.	CHED	227	Burrow, J.	ENFL	117	Cabral, H.	PMSE	757
Buist, K.	CATL	434	Burrows, M.	PHYS	457	Cabrera, A.	ENVR	83
Bujanda, A.A.	COLL	203	Burrows, N.D.	COLL	86	Cadahia, J.P.	MEDI	211
Bukhryakov, K.	INOR	686	Burrows, N.D.	GEOC	41	Caddell Haatveit, K.J.	ORGN	505
Bukhryakov, K.	INOR	687	Burt, A.J.	BIOL	6	Cadol, D.	TOXI	73
Bulavin, L.	POLY	294	Burt, C.	MEDI	25	Cadorim, H.	ANYL	176
Bull, G.	NUCL	17	Burton, C.A.	AGRO	390	Cady, C.	PMSE	551
Bull, G.	NUCL	19	Burton, C.A.	SCHB	5	Cady, C.	CHED	60
Bull, J.A.	MEDI	77	Burton, C.A.	SCHB	9	Caffarena, E.	COMP	138
Bull, R.L.	ANYL	238	Burton, C.	MEDI	364	Cafferty, B.J.	ORGN	667
Bull, R.L.	ANYL	483	Burton, D.	CARB	73	Caffrey, B.	BIOL	82
Bullock, R.	INOR	337	Burton, M.	PHYS	556	Caffrey, C.R.	MEDI	32
Bullock II, T.S.	POLY	346	Burton, M.	PHYS	557	Caffrey, P.	TOXI	58
Bulovic, V.	ENFL	246	Burton-Freeman, B.	AGFD	278	Cafiso, D.S.	BIOL	177
Bulovic, V.	PMSE	557	Burusco-Goni, K.K.	COMP	362	Cafiso, D.S.	MEDI	223
Bulumulla, C.	POLY	347	Busch, E.	ORGN	171	Cagle, M.A.	ENVR	629
Bumpus, T.W.	BIOL	19	Busch, M.	AGRO	70	Cagli, E.	PMSE	594
Bundy, M.L.	POLY	454	Buschmann, N.	MEDI	20	Cahir, J.	INOR	730
Bunin, B.A.	CINF	13	Buser, M.D.	AGRO	117	Cai, A.	TOXI	46
Bunin, B.A.	CINF	135	Buser, M.D.	AGRO	232	Cai, B.	ENFL	115
Bunker, C.E.	ENFL	156	Bush, M.F.	ANYL	518	Cai, C.	CELL	13
Bunker, K.	INOR	590	Busi, R.	AGRO	106	Cai, K.	POLY	38
Bunn, H.	PHYS	81	Buskens, P.	CATL	31	Cai, L.	AGRO	296
Bunning, T.	CELL	63	Buskens, P.	POLY	30	Cai, L.	INOR	709
Bunning, T.	POLY	509	Buskes, M.J.	MEDI	34	Cai, L.	POLY	313
Bunning, T.	POLY	596	Buss, B.	CATL	310	Cai, M.	INOR	725
Bunton, C.	PMSE	440	Buss, B.	POLY	127	Cai, P.	ENVR	254
Bunz, U.	ORGN	587	Bussiere, D.	MEDI	281	Cai, Q.	COLL	578
Bunz, U.H.	ORGN	412	Bustillo, K.	COLL	372	Cai, S.	AGFD	128
Buonsanti, R.	COLL	370	Butcher, W.	MEDI	445	Cai, S.	PMSE	238
Buonsanti, R.	COLL	585	Buthelezi, M.T.	PHYS	429	Cai, W.	COLL	453
Buonsanti, R.	MPPG	17	Buthelezi, M.T.	PHYS	492	Cai, X.	ORGN	185
Bura, T.	PMSE	540	Butkevich, A.N.	ORGN	256	Cai, X.	ENFL	157
Burans, J.	ANYL	485	Butler, C.	ENVR	253	Cai, X.	PMSE	226
Buras, Z.J.	PHYS	438	Butler, E.	ANYL	487	Cai, Y.	ENVR	206
Buras, Z.J.	PHYS	574	Butler, E.	ANYL	488	Cai, Y.	ENVR	207
Burch, J.	INOR	567	Butler, E.L.	INOR	241	Cai, Y.	PMSE	798
Burch, S.	ENFL	244	Butler, I.S.	CELL	6	Cai, Z.	PMSE	450
Burchfield, E.	CHED	257	Butler, I.S.	INOR	569	Cai, Z.	PMSE	575
Burda, C.	ANYL	551	Butler, I.S.	MEDI	236	Cailliez, F.	COMP	219
Burdette, M.K.	POLY	170	Butler, J.P.	CHED	316	Caiola, A.M.	CATL	320
Burford, K.	MEDI	333	Butler, K.	MEDI	345	Cairns-Gibson, D.	COLL	309
Burford, K.	MEDI	359	Butler, T.	ORGN	4	Cakmak, M.	PMSE	74
Burg, F.	ORGN	104	Butler, T.	INOR	321	Calabrese, D.	ORGN	204
Burgan, D.Z.	MEDI	403	Butman, H.	MEDI	117	Calabrese, E.J.	AGFD	6
Burgard, D.A.	ENVR	515	Butt, C.	AGRO	111	Calabrese Barton, S.A.	ENFL	112
Burgeson, S.	CHED	324	Buttafuoco, N.	ENVR	386	Calalpa, B.	ORGN	144
Burgess, I.	ENVR	11	Buttaro, B.	MEDI	336	Calatayud, M.	PHYS	571
Burgess, K.	ANYL	493	Buttrey, D.J.	CATL	235	Calder, E.D.	MEDI	348
Burgess, L.E.	MEDI	144	Butty, V.	BIOL	134	Calderin, J.	ANYL	392
Burgey, C.S.	MEDI	279	Butty, V.	INOR	769	Calderon, B.A.	PMSE	701
Burgey, C.S.	MEDI	329	Buysse, A.	AGRO	170	Calderon, B.A.	PMSE	709
Burghardt, I.	PHYS	105	Buzdygon, R.S.	ORGN	173	Calderon, I.C.	POLY	406
Burghaus, U.	COMP	283	Buzzá, H.H.	COLL	30	Calderon-Du Pont, D.	ENVR	506
Burghes, A.	MEDI	285	Byars, J.	AGFD	101	Calderon-Romo, F.	MEDI	332
Birgi, T.	HIST	21	Byers, J.A.	CHED	55	Calderwood, D.J.	MEDI	10
Burgos, I.	CATL	272	Byers, J.A.	CHED	244	Caldwell, I.	AGRO	58
Burgos, N.	AGRO	105	Byers, J.A.	INOR	17	Caldwell, K.R.	CHED	398
Buriak, J.M.	MPPG	77	Byers, J.A.	INOR	90	Caldwell, K.L.	ANYL	547
Buriak, J.M.	PMSE	307	Byers, J.A.	INOR	97	Caldwell, K.M.	CHAL	29

Caldwell, K.M.	CHAL	30	Cao, B.	ENVR	222	Cargnello, M.	CATL	377
Calisgan, G.	ORGN	589	Cao, B.	NUCL	36	Cargnello, M.	COLL	371
Call, D.F.	ENVR	181	Cao, B.	PMSE	50	Cargnello, M.	COLL	798
Call, D.F.	ENVR	323	Cao, F.	ANYL	390	Cargnello, M.	ENFL	332
Call, D.F.	ENVR	700	Cao, G.	ENFL	82	Caridi, D.	CHED	93
Callahan, B.P.	BIOL	219	Cao, J.	PHYS	202	Caridi, D.	CHED	352
Callahan, J.E.	AGRO	5	Cao, J.	PHYS	101	Carino, E.	ENFL	205
Callura, J.C.	ENVR	799	Cao, J.	PHYS	412	Carley, D.	AGRO	361
Calnan, A.	BIOL	180	Cao, J.	PMSE	483	Carlo, S.R.	COLL	403
Calnan, A.	CHED	13	Cao, K.	POLY	617	Carlson, R.	INOR	600
Calubaquib, E.J.	COLL	626	Cao, L.	AGRO	141	Carlson, A.N.	COMP	368
Calvary, C.A.	INOR	503	Cao, L.	AGRO	278	Carlson, E.A.	TOXI	65
Calvary, C.A.	INOR	510	Cao, L.	ENVR	60	Carlson, E.A.	TOXI	67
Calvinho, K.U.	ENFL	18	Cao, L.	CARB	73	Carlson, E.	TOXI	12
Calvinho, K.U.	INOR	560	Cao, M.	POLY	220	Carlson, E.	TOXI	77
Calvo, J.	INOR	608	Cao, M.	POLY	233	Carlson, E.E.	ANYL	443
Calza, P.	MPPG	29	Cao, M.	AGFD	267	Carlson, E.E.	BIOL	261
Camaioni, D.M.	CATL	8	Cao, P.	PMSE	113	Carlson, J.B.	ANYL	517
Camaioni, D.M.	CATL	102	Cao, P.	PMSE	501	Carlsson, L.A.	PMSE	581
Camarado, A.	COLL	235	Cao, P.	POLY	542	Carman, L.	ANYL	241
Camarero, J.	COLL	320	Cao, Q.	INOR	267	Carmean, R.N.	PMSE	293
Camarero-Espinosa, S.	PMSE	236	Cao, R.	ENVR	31	Carmean, R.N.	POLY	121
Camarillo, A.	PMSE	338	Cao, S.	COMP	485	Carmichael, J.	POLY	346
Camarillo, A.	PMSE	418	Cao, Y.	ENFL	482	Carnahan, E.M.	POLY	536
Camasso, N.	INOR	694	Cao, Y.	ENFL	535	Carneiro, L.M.	PHYS	221
Cambray, S.	BIOL	214	Cao, Y.	INOR	346	Carnerup, M.A.	MEDI	155
Cambrea, L.	POLY	256	Cao, Y.	AGFD	212	Carnes, K.	PHYS	318
Camden, J.P.	COLL	635	Cao, Y.	INOR	589	Carnes, K.	PHYS	440
Camden, J.P.	PHYS	299	Cao, Y.	PMSE	175	Carney, M.J.	POLY	320
Camerino, E.	POLY	211	Cao, Z.	CATL	73	Carney, S.	COLL	235
Cameron, N.R.	PMSE	68	Cao, Z.	ANYL	45	Carpenter, B.	MEDI	56
Cameron, N.R.	POLY	7	Cao, Z.	PMSE	652	Carpenter, C.	MEDI	25
Cameron, N.R.	POLY	561	Cao-Milán, R.	INOR	764	Carpenter, M.E.	CHED	311
Cami, J.	PHYS	195	Cao-Milán, R.	ORGN	146	Carpenter, R.	ENVR	515
Camilo Gonzalez, J.	COMP	191	Cao-Milán, R.	ORGN	316	Carpenter, T.S.	BIOL	91
Cammi, R.	PHYS	366	Cao-Milán, R.	PMSE	561	Carpenter, T.S.	BIOL	92
Camp, A.M.	INOR	401	Capicciotti, C.	CARB	130	Carpentier, C.	MEDI	184
Campagna, S.R.	ANYL	113	Capilli, G.	MPPG	29	Carpentier, C.	ORGN	660
Campagnola, P.	ANYL	446	Capiro, N.	ENVR	372	Carpentier, J.	PMSE	61
Campana, M.	BIOL	260	Capiro, N.	ENVR	665	Carr, A.C.	CHED	380
Campaña, S.	POLY	380	Capiro, N.	GEOC	19	Carr, P.	ENVR	201
Campanella, A.	AGFD	100	Capiro, N.	GEOC	70	Carr, R.A.	MEDI	369
Campbell, A.J.	COMP	565	Capon, R.J.	CINF	6	Carra', A.	TOXI	77
Campbell, C.T.	CATL	100	Cappillino, P.J.	ENVR	533	Carragher, C.E.	PMSE	445
Campbell, C.T.	CATL	411	Cappillino, P.J.	ENVR	551	Carragher, C.E.	PMSE	446
Campbell, D.D.	AGRO	57	Capretta, A.	MEDI	45	Carrasco, E.	COLL	320
Campbell, E.	COLL	452	Caproiou, M.	CARB	84	Carrasco, E.	COLL	495
Campbell, G.	PMSE	295	Caputo, C.A.	INOR	260	Carrasquillo-De Jesus, R.	BIOL	77
Campbell, I.	MEDI	271	Caputo, D.F.	ORGN	290	Carre-Camps, M.	ANYL	64
Campbell, J.W.	COLL	174	Caputo, G.A.	BIOL	32	Carreira, E.M.	BIOL	270
Campbell, J.W.	COLL	504	Caputo, G.A.	BIOL	105	Carreon, M.A.	CATL	364
Campbell, K.	ANYL	446	Caputo, G.A.	BIOL	107	Carreon, M.A.	ENFL	494
Campbell, M.J.	AGRO	207	Caputo, H.	POLY	94	Carrera, D.E.	ORGN	542
Campbell, M.J.	ORGN	84	Caputo, H.	POLY	339	Carrero, C.A.	CATL	417
Campbell, P.	CHED	362	Caputo, J.	ENFL	396	Carrero, C.A.	ENFL	51
Campbell, S.	BIOL	250	Car, R.	CATL	5	Carrier, D.J.	CELL	19
Campbell, S.	PMSE	460	Car, R.	COMP	299	Carrigan, C.	PROF	1
Campbell Iii, J.W.	MEDI	97	Caracciolo, D.	CATL	339	Carril, M.	COLL	710
Campen, R.K.	ENFL	438	Caracciolo, D.	COLL	298	Carrillo, D.	AGRO	175
Campetella, M.	COMP	9	Caracciolo, D.	ENVR	607	Carrillo, P.C.	CATL	63
Campo, J.	INOR	540	Caradonna, J.P.	INOR	605	Carrillo Carrion, C.	COLL	363
Campos, L.M.	PHYS	520	Caradonna, J.P.	INOR	606	Carrillo Carrion, C.	COLL	710
Campos, L.M.	PMSE	246	Caradonna, J.P.	INOR	609	Carroll, B.	PHYS	560
Campos, L.M.	POLY	480	Caram, J.R.	PHYS	406	Carroll, J.	BIOL	304
Campos, M.P.	INOR	414	Caram, J.R.	PHYS	562	Carroll, M.K.	INOR	749
Campos-Angulo, J.	PHYS	316	Caram, J.R.	PHYS	581	Carroll, P.	INOR	426
Can, M.	INOR	392	Caramelli, D.	CINF	34	Carroll, S.	MEDI	82
Caná, D.	ENVR	417	Caravan, P.	INOR	548	Carski, T.	AGRO	158
Candiani, I.	MEDI	362	Caravan, P.	NUCL	16	Carstensen, O.	PHYS	230
Canilho, N.	AGFD	230	Carbajo, R.	ORGN	367	Cartelli, S.	ORGN	106
Canney, D.J.	MEDI	106	Carbajo, S.	PHYS	9	Carter, B.	AGFD	124
Canning, A.	COMP	126	Carbajo, S.	PHYS	430	Carter, E.A.	ENFL	369
Canning, S.L.	PMSE	65	Carballeira, N.M.	ORGN	367	Carter, E.A.	COMP	84
Canning, S.L.	POLY	189	Carballeira, N.M.	PROF	27	Carter, E.A.	PHYS	33
Cannon, A.S.	CHED	405	Carbone, E.	POLY	258	Carter, E.A.	PMSE	405
Cannon, A.S.	TOXI	69	Carbone, E.	POLY	446	Carter, J.	CATL	25
Cannon, A.S.	YCC	15	Carbone, F.	PHYS	567	Carter, J.	AGRO	257
Cannon, C.	PMSE	650	Carbonell, R.G.	POLY	68	Carter, S.L.	INOR	38
Cannon, J.	ORGN	73	Cardamone, A.	ANYL	485	Cartereau, A.	AGRO	308
Cannone, Z.	CARB	101	Cardenas, E.L.	MEDI	79	Caruso, F.	POLY	131
Canny, M.	BIOL	173	Cardenas, L.	CATL	464	Caruso, M.	MEDI	362
Cano, I.	CATL	128	Cardenas, M.G.	MEDI	351	Carvalho, A.S.	CINF	24
Canovas, E.	PHYS	151	Carder, E.	MEDI	214	Carvalho, A.M.	COLL	486
Canterbury, D.	ORGN	63	Cardinal-David, B.	ORGN	43	Carvalho, A.F.	CARB	112
Canton, S.	ANYL	297	Cardona-Quintero, Y.P.	COLL	800	Carvalho, F.K.	AGRO	75
Cantrel, A.	CHED	318	Cardoso Dos Reis Melo, M.	COMP	258	Carvalho, J.	AGRO	193
Cantrell, C.L.	AGRO	146	Carenco, S.	INOR	410	Carvalho, S.J.	POLY	346
Cantu, D.	ENFL	80	Carenzi, D.	MEDI	365	Carver, J.	CINF	97
Cantu, D.C.	ENFL	498	Carey, A.	AGFD	51	Carver, J.	CHED	282
Canturk, B.	AGRO	94	Carey, J.	ORGN	510	Carver, L.	AGRO	228
Canturk, B.	AGRO	251	Cargnello, M.	CATL	11	Casadevall, G.	CATL	157
Cao, B.	ENVR	257	Cargnello, M.	CATL	62	Casal, M.	PMSE	680
Cao, B.	PMSE	307	Cargnello, M.	CATL	72	Casal, M.	PMSE	812

Casale, E.	MEDI	365	Cecchet, F.	COLL	767	Chambers, N.	ORGN	110
Casale, S.	CATL	380	Cecere, A.	CHED	178	Chambon, P.	POLY	306
Casali, L.	ENVR	451	Cederbaum, L.S.	PHYS	315	Chambon, P.	POLY	312
Casalini, R.	PMSE	476	Cegan, J.	ENVR	625	Chambre, L.	POLY	80
Casalini, R.	PMSE	748	Ceja-Galicia, Z.A.	ENVR	506	Chambreau, S.D.	CATL	521
Casanova, D.	PHYS	53	Celebi-Olcum, N.	COMP	331	Chamiot-Clerc, P.	MEDI	368
Case, M.J.	ANYL	258	Celik, F.E.	CATL	420	Champion, M.	MEDI	145
Casey, F.X.	AGRO	295	Celik, G.M.	INOR	134	Chan, A.	INOR	402
Casey, K.C.	INOR	693	Celik, G.	ENFL	116	Chan, A.	AGRO	85
Cash, C.	ENVR	196	Celli, J.	COLL	565	Chan, A.K.	BIOL	306
Casola, J.	POLY	137	Cemaj, S.	MEDI	139	Chan, B.C.	CHED	247
Cass, A.C.	ANYL	81	Cendrowski, S.	ANYL	485	Chan, B.C.	INOR	679
Cassani, C.	ORGN	169	Cenizal, T.	AGRO	207	Chan, C.K.	ENVR	396
Casselman, T.	WCC	2	Centazzo, N.	ENVR	514	Chan, C.	PMSE	750
Cassidy, B.	CHAS	10	Centeno, S.	HIST	3	Chan, C.	ENVR	773
Cassidy, B.	ENVR	505	Centrone, A.	ANYL	542	Chan, C.	TOXI	50
Cassidy, P.	AGRO	81	Centurion, M.	PHYS	206	Chan, C.T.	TOXI	31
Castagnola, V.	COLL	566	Cerda, J.	BIOL	273	Chan, D.	BIOL	126
Castagnola, V.	COLL	768	Cerfontaine, S.	INOR	112	Chan, E.	POLY	132
Castaldi, M.J.	CHED	54	Ceriotti, M.	COMP	180	Chan, G.	COMP	551
Castaldi, M.J.	CHED	66	Cerkez, E.B.	COLL	428	Chan, K.	CARB	79
Castaldi, M.J.	CHED	94	Cerne, R.	MEDI	189	Chan, K.	ENFL	324
Castaldi, P.	ORGN	549	Ceroni, P.	INOR	550	Chan, L.	COLL	571
Castaneda, D.	CINF	126	Cerrato, J.M.	GEOC	67	Chan, M.	PRES	27
Castaneda, H.	PMSE	728	Cerruti, M.	MPPG	29	Chan, P.	AGRO	6
Castaneda, H.	PMSE	730	Cerulli, R.A.	ORGN	162	Chan, P.	AGRO	65
Castaneda Mogollon, D.	CINF	163	Cerullo, G.	PHYS	547	Chan, R.	ANYL	466
Castanedo, G.	ORGN	550	Cerutti, D.S.	COMP	237	Chan, S.L.	COMP	453
Castanheiro, T.	ORGN	75	Cervantes-Avilés, P.	ENVR	75	Chan, S.	COLL	162
Castano, C.E.	CATL	152	Cesana, P.	ENVR	596	Chan, S.	COLL	351
Castano, C.E.	CATL	342	Cesana, P.	MEDI	102	Chan, W.	INOR	56
Castellanos, L.	COLL	232	Cesar, T.B.	AGFD	252	Chan, W.	POLY	73
Castellanos, L.	ORGN	316	Cesta, D.	MEDI	116	Chan, W.	ENFL	445
Castellanos-Gomez, A.	INOR	80	Ceter, T.	CARB	110	Chan, W.	TOXI	33
Castellanos-Rubio, I.	COLL	702	Cevirim, N.	NUCL	35	Chan, W.	TOXI	50
Castellino, S.	MEDI	31	Ceylan, Y.S.	INOR	37	Chan, W.	COLL	454
Castellon, J.O.	COLL	213	Cha, H.J.	COLL	207	Chan, W.	PMSE	225
Castellote, I.	MEDI	332	Cha, J.N.	CATL	388	Chan, W.	PMSE	560
Castillo, H.D.	COLL	77	Cha, M.	COLL	678	Chan, Y.	ANYL	227
Castillo, H.D.	COLL	333	Chabal, Y.J.	CATL	32	Chanachichalermwong, W.	ENFL	247
Castillo, R.	COLL	293	Chabal, Y.J.	COLL	121	Chan Chang, T.	INOR	410
Castle, C.	CINF	108	Chad, P.	ENVR	612	Chand, S.	INOR	699
Castleman, P.	MEDI	170	Chadda, R.	COMP	106	Chandanshive, V.	GEOC	68
Castner, E.	CHED	327	Chae, I.	CELL	67	Chandler, B.	CHED	394
Castro, D.	COLL	251	Chae, J.	ANYL	542	Chandler, K.B.	ANYL	421
Castro, E.	ORGN	536	Chae, S.	PMSE	487	Chandler, K.B.	CARB	10
Castro, T.G.	BIOL	56	Chae, W.	INOR	135	Chandler, K.B.	CARB	74
Castro, T.G.	COLL	570	Chafin, A.	POLY	256	Chandna, S.	COLL	96
Castro-Gamboa, I.	CINF	4	Chagas, C.M.	MEDI	205	Chandra, P.	CATL	513
Castro-Tanzi, S.	AGRO	76	Chahal, K.K.	MEDI	307	Chandrachud, P.P.	INOR	596
Catalano, J.G.	ENVR	389	Chai, S.	AGRO	280	Chandran, K.	ENVR	171
Catarineu, N.R.	INOR	140	Chai, W.	INOR	194	Chandrasekaran, A.	COMP	501
Cates, E.L.	ENVR	110	Chai, X.	MEDI	24	Chandrasekaran, A.	PMSE	754
Catherine, H.N.	ENVR	616	Chaika, M.	MEDI	402	Chandrasekaran, N.K.	INOR	748
Cathey, T.	AGRO	107	Chaires, H.A.	BIOL	102	Chandrasekaran, P.	CHED	59
Catino, A.J.	CHED	396	Chaires, J.B.	CHED	171	Chandrashekar, M.	AGRO	115
Catino, A.J.	ORGN	585	Chaires, J.B.	INOR	568	Chandrasiri, K.K.	ANYL	522
Catlow, C.	CATL	114	Chaisan, N.	ORGN	12	Chang, A.	POLY	95
Catlow, R.	CATL	118	Chaisuwan, T.	ENFL	273	Chang, B.S.	ANYL	61
Caudill, E.R.	ANYL	398	Chaker, M.	ENVR	439	Chang, B.S.	COLL	684
Caudill, E.R.	ENVR	213	Chakrabarty, P.	COLL	637	Chang, B.S.	POLY	219
Caulbeck, H.	POLY	230	Chakrabarty, S.	ORGN	305	Chang, C.	PMSE	597
Caulton, K.G.	INOR	343	Chakrabarty, A.	COMP	6	Chang, C.	BIOL	14
Caulton, K.G.	INOR	542	Chakrabarty, A.	COMP	79	Chang, C.	BIOL	80
Caulton, K.G.	INOR	543	Chakrabarty, A.	COMP	172	Chang, C.J.	INOR	65
Caulton, K.G.	INOR	594	Chakrabarty, A.	COMP	234	Chang, C.	BIOL	199
Cavaco-Paulo, A.	BIOL	56	Chakrabarty, A.	COMP	238	Chang, C.	PMSE	449
Cavaco-Paulo, A.	COLL	430	Chakrabarty, A.	COMP	262	Chang, C.	ANYL	102
Cavaco-Paulo, A.	COLL	570	Chakrabarty, A.	PHYS	210	Chang, D.K.	CHED	227
Cavallaro, C.L.	MEDI	254	Chakrabarty, A.	PHYS	435	Chang, F.	AGFD	91
Cavalleri, A.	COMP	353	Chakrabarty, A.	PHYS	485	Chang, H.	ENVR	343
Cavallotti, C.	PHYS	291	Chakrabarty, A.	PHYS	486	Chang, H.	ENVR	613
Cavanaugh, J.	MEDI	128	Chakrabarty, A.	PHYS	577	Chang, H.	ANYL	233
Cavanaugh, J.	MEDI	129	Chakrabarty, I.	INOR	641	Chang, H.	PHYS	221
Cavicchi, K.A.	PMSE	74	Chakrabarty, M.	INOR	639	Chang, J.	MEDI	278
Cavicchi, K.A.	PMSE	432	Chakrabarty, M.	INOR	703	Chang, J.	ENVR	339
Cavicchi, K.A.	PMSE	524	Chakrabarty, S.	MEDI	385	Chang, K.	MEDI	443
Cavicchi, K.A.	PMSE	554	Chakrabarty, S.	INOR	378	Chang, K.	PHYS	13
Cavicchi, K.A.	POLY	72	Chakrasali, P.	MEDI	125	Chang, L.	BIOL	64
Cavinato, G.	ENFL	316	Chakrasali, P.	MEDI	202	Chang, M.	BIOL	152
Caydamli, Y.	POLY	145	Chakroun, R.	POLY	278	Chang, M.	BIOL	263
Cayeux, I.	AGFD	269	Chalifoux, W.	ORGN	533	Chang, M.	ENVR	470
Cearley, C.	MEDI	276	Chalk, S.J.	CINF	44	Chang, P.	BIOL	9
Ceballos, G.	CHED	260	Chalk, S.J.	CINF	47	Chang, P.W.	COMP	469
Ceballos, G.	MEDI	33	Chalk, S.J.	CINF	48	Chang, R.	AGFD	173
Ceballos, G.	MEDI	34	Chalk, S.J.	CINF	130	Chang, S.	AGFD	149
Ceballos, G.	MEDI	36	Chalk, S.J.	CINF	132	Chang, S.	ENVR	57
Ceballos, G.	MEDI	38	Challen, P.R.	ORGN	615	Chang, T.	PMSE	506
Ceballos, G.	MEDI	335	Chamberlain, A.	ANYL	486	Chang, T.	ANYL	202
Cebeci, F.C.	COLL	511	Chamberland, S.	CHED	418	Chang, T.	ANYL	556
Cebeci, F.C.	PMSE	182	Chambers, G.M.	INOR	337	Chang, T.	COLL	321
Ceccarelli, M.	COMP	293	Chambers, J.	CINF	80	Chang, T.	COLL	431
Ceccarelli, M.	COMP	468	Chambers, K.	BIOL	291	Chang, T.	COLL	601

Chang, T.	INOR	418	Chaudhary, R.	ANYL	446	Chen, D.	PMSE	562
Chang, T.	ENVR	586	Chaudhary, V.	MEDI	216	Chen, D.	POLY	239
Chang, V.	COLL	313	Chaudhary, V.	ORGN	286	Chen, D.	MEDI	342
Chang, X.	ENVR	91	Chaudhry, A.	MEDI	45	Chen, D.	INOR	128
Chang, Y.	POLY	469	Chaudhry, C.	MEDI	56	Chen, D.	POLY	576
Chang, Y.	COLL	287	Chaudhry, S.	PMSE	533	Chen, E.K.	MEDI	32
Chang, Y.C.	PHYS	368	Chaudhuri, S.	ORGN	512	Chen, E.Y.	PMSE	53
Chang, Y.	PHYS	9	Chaudhuri, S.	COMP	264	Chen, F.	COLL	350
Chang, Y.	COLL	287	Chaudhuri, S.	PHYS	417	Chen, F.	COLL	367
Chang, Y.	COLL	250	Chauhan, B.P.	CHED	217	Chen, F.	COLL	489
Changala, P.B.	PHYS	192	Chauhan, B.P.	CHED	220	Chen, F.	TOXI	88
Changyong, Z.	ENVR	523	Chauhan, B.P.	CHED	402	Chen, F.	TOXI	45
Chanthamath, S.	ORGN	101	Chauhan, B.P.	COLL	181	Chen, F.	TOXI	46
Chao, D.	PHYS	532	Chauhan, B.P.	COLL	262	Chen, F.	ANYL	72
Chao, Y.	PMSE	664	Chauhan, B.P.	COLL	751	Chen, F.	CATL	102
Chapleski, R.C.	CATL	457	Chauhan, M.	CHED	220	Chen, F.	COLL	409
Chapleski, R.C.	COLL	354	Chauhan, M.	COLL	751	Chen, F.	ENFL	469
Chaplin, D.J.	MEDI	97	Chauhan, S.	CARB	58	Chen, G.	CATL	99
Chaplin, V.	INOR	610	Chavan, K.S.	ENFL	112	Chen, G.	COLL	736
Chaplin, V.D.	COLL	270	Chavez, A.	ORGN	425	Chen, G.	ENFL	261
Chapman, C.T.	COMP	4	Chavez, A.	PMSE	608	Chen, G.	ENFL	277
Chapman, D.T.	ENFL	424	Chavez, D.E.	PRES	23	Chen, G.	I&EC	52
Chapman, G.	ANYL	540	Chavez, D.	ENVR	680	Chen, G.	I&EC	54
Chapman, K.W.	CATL	87	Chavez, S.E.	PMSE	654	Chen, G.	ENFL	280
Chapman, K.W.	ENFL	348	Chávez, C.	CHED	205	Chen, G.	AGFD	182
Chapman, M.A.	CHED	22	Chávez-Munguía, B.	MEDI	169	Chen, G.	CELL	47
Chapman, R.	PHYS	554	Chavez Soria, N.G.	TOXI	19	Chen, G.	PMSE	81
Chapman, R.	PMSE	625	Chazeau, L.	POLY	299	Chen, G.	PMSE	439
Chapman, S.	CATL	114	Che, H.	AGFD	268	Chen, H.	MEDI	62
Chapman, T.	MEDI	100	Che, S.	ENFL	495	Chen, H.	MEDI	264
Chapman Varela, J.	ENFL	30	Che, T.	MEDI	193	Chen, H.	COLL	489
Chapman Varela, J.	ENFL	556	Cheah, Y.	CATL	485	Chen, H.	TOXI	20
Chappell, C.	MEDI	342	Cheatun, C.M.	BIOL	165	Chen, H.C.	TOXI	41
Chaput, J.C.	BIOL	150	Checcia, S.	CATL	68	Chen, H.C.	TOXI	102
Charan, H.	POLY	229	Chechetto, R.G.	AGRO	75	Chen, H.	MEDI	311
Charbonneau, P.	CHED	110	Cheeseman, E.N.	CHAL	32	Chen, H.	PMSE	340
Charbonnel, M.	NUCL	54	Cheeseman, E.N.	CINF	18	Chen, H.	PMSE	723
Charette, A.B.	ORGN	270	Cheeseright, T.	COMP	363	Chen, H.	POLY	295
Charette, A.B.	ORGN	271	Cheewatrakoolpong, B.	MEDI	311	Chen, H.	COLL	541
Charette, A.B.	ORGN	343	Cheff, D.	MEDI	302	Chen, H.	COMP	99
Charette, A.B.	ORGN	409	Cheikh Sid Ely, S.	PHYS	372	Chen, H.	ANYL	258
Chari, R.V.	MEDI	363	Chesson, T.	INOR	426	Chen, H.	ENFL	311
Charipar, N.A.	PHYS	392	Chekini, M.	COLL	678	Chen, H.	ENFL	312
Charlebois, A.F.	WCC	16	Chemburkar, A.	CATL	225	Chen, H.	CHED	70
Charlebois, A.F.	WCC	17	Chemburkar, A.	CATL	422	Chen, H.	BIOL	95
Charlebois, A.F.	WCC	21	Chen, L.	PHYS	287	Chen, H.	AGRO	16
Charlermroj, R.	AGFD	296	Chen, N.	MEDI	322	Chen, H.	ENVR	88
Charles, C.	INOR	484	Chen, X.	MEDI	322	Chen, H.	CELL	73
Charles, L.	ANYL	476	Chen, Y.	MEDI	108	Chen, H.	ENVR	270
Charles, M.	COMP	311	Chen, Y.	MEDI	322	Chen, H.	MEDI	369
Charlton, A.	AGRO	62	Chen, A.	PMSE	79	Chen, I.	COMP	228
Charlton, R.	BIOL	318	Chen, B.	ENVR	93	Chen, J.	ENVR	244
Charlton, R.	MEDI	39	Chen, B.	ENVR	127	Chen, J.J.	COLL	790
Charnay, A.P.	PHYS	44	Chen, B.	ENVR	141	Chen, J.	MEDI	150
Charneira, C.	TOXI	51	Chen, B.	ENVR	221	Chen, J.	INOR	262
Charnley, S.	PHYS	195	Chen, B.	ENVR	365	Chen, J.	ENVR	50
Charoenpanich, A.	INOR	551	Chen, B.	ENVR	370	Chen, J.	COMP	480
Charoenpanich, A.	INOR	673	Chen, B.	ENVR	426	Chen, J.	COMP	465
Charoensaeng, A.	ENFL	247	Chen, B.	ENVR	495	Chen, J.	COMP	509
Charoensaeng, A.	ENFL	270	Chen, B.	CATL	451	Chen, J.	COMP	540
Charoensaeng, A.	ENFL	271	Chen, B.	ENFL	29	Chen, J.	AGFD	148
Charoensaeng, A.	ENFL	272	Chen, B.	CATL	73	Chen, J.	ENVR	701
Charoensaeng, A.	I&EC	53	Chen, B.	ENFL	352	Chen, J.	ENVR	125
Charoensirisomboon, P.	PMSE	290	Chen, B.	PHYS	204	Chen, J.	PHYS	385
Carrier, B.	ANYL	287	Chen, B.	ORGN	415	Chen, J.	INOR	279
Charron, D.	COLL	60	Chen, C.	ENVR	773	Chen, J.	POLY	44
Charron, D.	PMSE	356	Chen, C.	ENVR	773	Chen, J.	POLY	44
Charron, D.M.	COLL	30	Chen, C.	CATL	244	Chen, J.	CELL	16
Charron, D.M.	COLL	512	Chen, C.	CHED	65	Chen, J.	MEDI	51
Chartrain, N.	POLY	143	Chen, C.	CHED	72	Chen, J.	CATL	369
Charvin, D.	MEDI	71	Chen, C.	ORGN	686	Chen, J.	AGFD	295
Chasteen, D.	BIOL	258	Chen, C.	MEDI	21	Chen, J.	COLL	17
Chatani, N.	ORGN	325	Chen, C.	INOR	664	Chen, J.	ENVR	51
Chatani, N.	ORGN	340	Chen, C.	MPPG	42	Chen, J.	ENVR	787
Chatani, N.	ORGN	466	Chen, C.	COLL	420	Chen, J.	POLY	43
Chatani, N.	ORGN	466	Chen, C.	ENVR	474	Chen, J.G.	CATL	15
Chatar, M.	MEDI	10	Chen, C.	ENVR	114	Chen, J.G.	CATL	230
Chatatare, V.	MEDI	226	Chen, C.	ENVR	311	Chen, J.G.	CATL	253
Chathurika, S.	AGRO	242	Chen, C.	INOR	45	Chen, J.	COLL	793
Chatterjee, A.	BIOL	153	Chen, C.	ENVR	404	Chen, J.	ENVR	61
Chatterjee, A.	BIOL	154	Chen, C.	ENVR	811	Chen, J.	ENVR	160
Chatterjee, A.	BIOL	279	Chen, C.	ANYL	187	Chen, J.	ENVR	238
Chatterjee, M.	CHED	33	Chen, C.	INOR	709	Chen, J.	ENVR	240
Chatterjee, M.	ENFL	66	Chen, C.	POLY	313	Chen, J.	ENVR	689
Chatterjee, P.	COMP	22	Chen, C.	PHYS	493	Chen, J.	PHYS	448
Chatterjee, P.	COMP	469	Chen, C.	PHYS	544	Chen, J.L.	COLL	715
Chatterjee, R.	PMSE	531	Chen, C.	PMSE	480	Chen, J.	MEDI	15
Chatterjee, R.	PHYS	58	Chen, C.	ENVR	617	Chen, J.	PMSE	550
Chatterjee, S.	ORGN	398	Chen, C.	INOR	343	Chen, J.L.	ORGN	645
Chatterjee, T.	AGFD	285	Chen, C.	INOR	543	Chen, J.	COLL	60
Chattopadhyay, A.	COMP	247	Chen, C.	ENVR	77	Chen, J.	COLL	166
Chattopadhyay, A.	COMP	578	Chen, C.O.	AGFD	26	Chen, J.	COLL	454
Chatzopoulou, M.	MEDI	289	Chen, C.	AGFD	277	Chen, J.	COLL	512
Chau, S.	ANYL	105	Chen, D.	AGFD	182	Chen, J.	PMSE	356

Chen, J.	AGRO	281	Chen, S.	CATL	346	Chen, Y.	BIOL	95
Chen, J.	MEDI	278	Chen, S.	COLL	489	Chen, Y.	MEDI	55
Chen, J.	PMSE	685	Chen, S.	POLY	408	Chen, Y.	MEDI	440
Chen, J.	CATL	29	Chen, S.	COLL	650	Chen, Y.	COLL	427
Chen, J.	POLY	479	Chen, S.	INOR	611	Chen, Y.	COLL	130
Chen, J.	ENFL	261	Chen, S.	INOR	774	Chen, Y.	COLL	194
Chen, J.	ENFL	118	Chen, S.	CATL	478	Chen, Y.	MPPG	53
Chen, J.	INOR	19	Chen, S.	ENFL	331	Chen, Y.	I&EC	57
Chen, J.	INOR	683	Chen, S.	COLL	582	Chen, Y.	PHYS	344
Chen, J.	INOR	689	Chen, S.	COLL	155	Chen, Y.	COLL	94
Chen, J.	NUCL	51	Chen, S.	PHYS	208	Chen, Y.	CHED	442
Chen, J.	PHYS	401	Chen, S.M.	AGRO	228	Chen, Y.	COLL	549
Chen, J.	CELL	30	Chen, T.	ENVR	23	Chen, Z.	ENFL	93
Chen, J.	PMSE	492	Chen, T.	ENVR	464	Chen, Z.	PMSE	243
Chen, J.	PMSE	493	Chen, T.	ENVR	544	Chen, Z.	AGFD	3
Chen, K.	PMSE	150	Chen, T.	POLY	195	Chen, Z.	AGFD	181
Chen, K.S.	MEDI	286	Chen, W.	ENVR	340	Chen, Z.	AGFD	233
Chen, K.	CHED	253	Chen, W.	ENVR	627	Chen, Z.	AGFD	235
Chen, K.	BIOL	134	Chen, W.	COMP	243	Chen, Z.	CATL	187
Chen, K.	CARB	42	Chen, W.	COMP	487	Chen, Z.	CATL	267
Chen, K.	POLY	608	Chen, W.	ENVR	5	Chen, Z.	ENFL	168
Chen, K.	PMSE	689	Chen, W.	INOR	270	Chen, Z.	INOR	43
Chen, K.	PMSE	576	Chen, W.	ENVR	475	Chen, Z.	CATL	431
Chen, K.	COLL	245	Chen, W.	PHYS	47	Chen, Z.	ANYL	317
Chen, K.	ANYL	202	Chen, W.	PHYS	509	Chen, Z.	TOXI	76
Chen, K.	ANYL	556	Chen, W.	INOR	527	Chen, L.	PHYS	334
Chen, K.	COLL	321	Chen, W.	PMSE	181	Chenal, J.	POLY	299
Chen, K.	COLL	431	Chen, W.	AGRO	283	Chene, P.	MEDI	101
Chen, K.	COLL	601	Chen, W.	AGRO	285	Cheng, C.	PHYS	196
Chen, K.	INOR	418	Chen, W.	ENFL	253	Cheng, B.	ANYL	392
Chen, K.	ANYL	7	Chen, W.	ENVR	442	Cheng, C.	ENVR	141
Chen, K.	ANYL	395	Chen, W.	ENVR	648	Cheng, C.	COMP	427
Chen, K.	ENVR	340	Chen, W.	ENVR	812	Cheng, C.	POLY	259
Chen, L.	ENVR	416	Chen, W.	BIOL	176	Cheng, D.	ENFL	151
Chen, L.	ENFL	489	Chen, W.	PMSE	110	Cheng, G.	ORGN	581
Chen, L.	AGFD	184	Chen, W.	PMSE	261	Cheng, H.N.	AGFD	244
Chen, L.	ENFL	393	Chen, W.	AGRO	231	Cheng, H.N.	AGFD	283
Chen, L.X.	PHYS	57	Chen, W.	AGRO	331	Cheng, H.	AGFD	321
Chen, L.X.	PHYS	161	Chen, W.	AGRO	332	Cheng, H.	COMP	77
Chen, L.	AGFD	186	Chen, W.	CATL	505	Cheng, H.	COLL	623
Chen, L.	MEDI	50	Chen, W.	ANYL	503	Cheng, H.	BIOL	100
Chen, L.	AGFD	79	Chen, X.	CARB	47	Cheng, H.	COLL	316
Chen, L.	ENVR	628	Chen, X.	CARB	91	Cheng, H.	MPPG	31
Chen, L.	CINF	142	Chen, X.	COMP	472	Cheng, H.	ENFL	554
Chen, L.	ORGN	204	Chen, X.	PHYS	292	Cheng, H.	MEDI	351
Chen, M.	POLY	142	Chen, X.	PMSE	816	Cheng, J.	POLY	9
Chen, M.	COLL	374	Chen, X.	POLY	11	Cheng, J.	COLL	554
Chen, M.	ENVR	762	Chen, X.	POLY	147	Cheng, J.	ANYL	17
Chen, M.	ANYL	122	Chen, X.	POLY	154	Cheng, J.	ANYL	37
Chen, M.	COLL	524	Chen, X.	POLY	205	Cheng, J.	ANYL	55
Chen, M.	COLL	539	Chen, X.	POLY	226	Cheng, J.	ANYL	321
Chen, M.	POLY	378	Chen, X.	ENVR	126	Cheng, J.	ANYL	355
Chen, M.	POLY	11	Chen, X.	ENFL	147	Cheng, J.	ANYL	451
Chen, M.	POLY	147	Chen, X.	PMSE	340	Cheng, J.	PHYS	63
Chen, M.	PHYS	281	Chen, X.	I&EC	35	Cheng, K.	AGFD	107
Chen, M.	BIOL	314	Chen, X.	ORGN	499	Cheng, K.	AGFD	114
Chen, N.	AGFD	160	Chen, X.	ENFL	502	Cheng, L.	ENFL	203
Chen, N.	COMP	42	Chen, X.	PMSE	689	Cheng, L.	AGFD	264
Chen, N.	COMP	257	Chen, X.	BIOL	30	Cheng, L.	ENFL	274
Chen, N.	ENVR	619	Chen, X.	COLL	297	Cheng, M.	MEDI	24
Chen, N.	PHYS	418	Chen, X.	COLL	81	Cheng, M.	COMP	291
Chen, O.	COLL	579	Chen, X.	COLL	508	Cheng, N.	AGFD	104
Chen, P.	AGFD	146	Chen, X.	PMSE	736	Cheng, N.	POLY	381
Chen, P.	AGFD	232	Chen, X.	AGFD	183	Cheng, P.J.	PHYS	326
Chen, P.	AGFD	314	Chen, X.	CATL	227	Cheng, P.	ANYL	547
Chen, P.	ANYL	65	Chen, X.	ENVR	724	Cheng, R.	ENVR	80
Chen, P.	ANYL	344	Chen, Y.	CINF	22	Cheng, R.	ENVR	434
Chen, P.	INOR	74	Chen, Y.	ENVR	413	Cheng, S.	PMSE	501
Chen, P.	INOR	392	Chen, Y.	INOR	189	Cheng, S.	ENVR	514
Chen, P.	ENVR	441	Chen, Y.	MEDI	441	Cheng, S.Z.	POLY	250
Chen, P.	BIOL	51	Chen, Y.	ORGN	498	Cheng, T.	CATL	367
Chen, P.	BIOL	95	Chen, Y.	MPPG	44	Cheng, T.	ENFL	119
Chen, Q.	MEDI	356	Chen, Y.	INOR	367	Cheng, X.	ANYL	7
Chen, Q.	BIOL	75	Chen, Y.	INOR	739	Cheng, X.	ORGN	18
Chen, Q.	COLL	91	Chen, Y.	PMSE	700	Cheng, X.	ENFL	147
Chen, Q.	MEDI	311	Chen, Y.	COLL	288	Cheng, X.	PMSE	291
Chen, Q.	MEDI	398	Chen, Y.	COLL	662	Cheng, Y.	CATL	115
Chen, R.	MEDI	108	Chen, Y.	ENVR	474	Cheng, Y.	ANYL	105
Chen, R.	POLY	385	Chen, Y.	COLL	634	Cheng, Y.	ANYL	179
Chen, R.	ANYL	544	Chen, Y.	POLY	469	Cheng, Z.	CELL	21
Chen, R.	AGRO	357	Chen, Y.	INOR	568	Cheng, Z.	CELL	64
Chen, R.	POLY	464	Chen, Y.	AGFD	175	Cheng, Z.	ENVR	701
Chen, R.	INOR	79	Chen, Y.	ANYL	68	Cheng, Q.	PMSE	361
Chen, S.	ENVR	298	Chen, Y.	CATL	284	Chenitz, R.	ENFL	128
Chen, S.	COLL	335	Chen, Y.	POLY	190	Chenoweth, D.M.	BIOL	40
Chen, S.H.	COMP	490	Chen, Y.	AGFD	89	Chenoweth, D.M.	BIOL	125
Chen, S.	MPPG	111	Chen, Y.	ENVR	617	Chenoweth, D.M.	ORGN	400
Chen, S.	ENVR	645	Chen, Y.	ENFL	91	Chenoweth, D.M.	PHYS	390
Chen, S.	ENVR	649	Chen, Y.	ORGN	45	Chen-Wiegart, Y.	ENFL	522
Chen, S.	ENVR	650	Chen, Y.	CARB	125	Chergui, M.	PHYS	102
Chen, S.	CHED	334	Chen, Y.	ENFL	111	Chergui, M.	PHYS	217
Chen, S.	PHYS	401	Chen, Y.	ENVR	142	Chern, M.	COLL	524
Chen, S.	PMSE	492	Chen, Y.	PHYS	401	Chernyshova, I.	CATL	37

Chero Osorio, S.P.	ENVR	680	Chittireddy, V.	INOR	707	Choi, J.	ENFL	530
Cherpak, V.	CELL	63	Chittireddy, V.	MEDI	399	Choi, J.	PMSE	402
Cherpinski, A.	AGFD	344	Chiu, D.T.	ANYL	50	Choi, J.	CARB	108
Cherukuri, P.	ANYL	4	Chiu, G.	PMSE	750	Choi, K.	ENFL	282
Cherukuri, P.	ANYL	314	Chiu, H.	ENFL	349	Choi, K.	ORGN	141
Chervin, C.N.	ENFL	348	Chiu, L.M.	ENVR	506	Choi, M.	CATL	508
Chervin, C.N.	ENFL	380	Chiu, M.	PMSE	417	Choi, M.	ENFL	531
Cheryl, D.	AGRO	49	Chiu, M.	PMSE	454	Choi, M.	ENFL	548
Cheseto, X.	AGRO	213	Chiu, M.	POLY	575	Choi, M.	ANYL	180
Cheung, K.M.	ANYL	201	Chivukula, V.	ANYL	193	Choi, R.	ENVR	509
Cheung, K.M.	ANYL	426	Chmiela, S.	COMP	308	Choi, S.	ANYL	59
Cheung, K.M.	COLL	292	Chng, C.	CATL	160	Choi, S.	ENVR	56
Cheung, K.M.	INOR	579	Cho, A.	COMP	567	Choi, S.	CARB	19
Cheung, K.M.	MPPG	70	Cho, B.	ORGN	582	Choi, S.	ENFL	237
Cheung, L.	PHYS	369	Cho, B.	TOXI	46	Choi, S.	POLY	569
Cheung, L.	PHYS	463	Cho, D.	PHYS	96	Choi, T.	POLY	580
Cheung, Y.	ANYL	179	Cho, D.	ENVR	499	Choi, T.S.	ENFL	540
Chevalier, R.B.	ANYL	409	Cho, E.	CATL	12	Choi, W.	ENFL	16
Chevrier, D.	COLL	738	Cho, E.	CATL	271	Choi, W.	ENVR	409
Chew, C.	CHED	315	Cho, E.	ORGN	610	Choi, W.	ENVR	567
Chhatwal, A.	CATL	209	Cho, E.	ORGN	622	Choi, W.	ENVR	804
Chhedra, P.	MEDI	104	Cho, E.	COMP	582	Choi, Y.	ENFL	223
Chhetri, P.	ANYL	437	Cho, E.	ANYL	160	Choi, Y.	ENFL	226
Chhowalla, M.	ENFL	291	Cho, E.	COLL	294	Choi, Y.	ENFL	229
Chi, B.	PMSE	563	Cho, H.	MEDI	237	Choi, Y.	ENVR	429
Chi, C.	PMSE	664	Cho, H.	ORGN	136	Choi, Y.	ENVR	431
Chi, C.	CATL	260	Cho, H.	PMSE	444	Choi, Y.	ENVR	498
Chi, K.	ENFL	456	Cho, H.	ENFL	83	Choi, Y.	ENVR	500
Chi, M.	CATL	71	Cho, H.	MEDI	84	Choi, Y.	ENVR	741
Chi, M.	CATL	234	Cho, H.	ANYL	160	Choi, Y.	ENVR	743
Chi, M.	PHYS	167	Cho, H.	COLL	294	Choi, Y.	ENVR	776
Chi, M.	PRES	16	Cho, I.	AGFD	86	Choi, Y.	MEDI	387
Chi, M.	PHYS	472	Cho, J.	COLL	214	Choi, Y.	COMP	181
Chi, W.S.	ENFL	365	Cho, J.	PMSE	475	Choi, M.	BIOL	37
Chi, X.	ENFL	44	Cho, J.	PMSE	539	Choi, M.	BIOL	211
Chia, E.	CATL	327	Cho, J.H.	PHYS	224	Choi, M.	ENVR	155
Chian, D.	MEDI	26	Cho, K.	ENVR	457	Cholensky, S.H.	MEDI	54
Chiang, H.	MEDI	144	Cho, K.	CATL	333	Cholensky, S.H.	MEDI	292
Chiang, N.	COLL	53	Cho, M.	CARB	19	Cholli, A.	SCHB	33
Chiang, N.	COLL	438	Cho, N.	COLL	438	Cholula-Diaz, J.	COLL	311
Chiang, N.	COLL	520	Cho, N.	COLL	567	Chon, A.C.	BIOL	201
Chiang, P.	ENVR	544	Cho, S.H.	MEDI	118	Chong, C.	CHED	402
Chiang, P.	COLL	112	Cho, S.	COLL	266	Chong, E.	ORGN	504
Chiang, Y.	BIOL	308	Cho, S.	PMSE	332	Chong, G.	COMP	48
Chiang, Y.	PMSE	750	Cho, S.	ENFL	387	Chong, G.	PHYS	500
Chiappa, A.	POLY	452	Cho, S.	MEDI	229	Chong, H.S.	INOR	189
Chiarelli, J.W.	PHYS	433	Cho, S.K.	AGFD	80	Chong, H.S.	MEDI	440
Chiavone-Filho, O.	ENVR	572	Cho, S.	AGRO	282	Chong, H.S.	MEDI	441
Chiba, T.	CHED	45	Cho, S.	AGRO	304	Chong, J.	ANYL	141
Chibale, K.	CINF	26	Cho, S.	AGRO	350	Chong, S.	BIOL	313
Chibotaru, L.	INOR	431	Cho, V.Y.	ORGN	514	Chong, T.	INOR	132
Chicarelli, M.J.	MEDI	144	Cho, Y.	ENVR	428	Choo, Y.	POLY	240
Chichura, K.	CHED	202	Cho, Y.	ENVR	429	Chorghade, M.	CATL	57
Chien, C.	AGFD	110	Cho, Y.	ENVR	431	Chorghade, M.	SCHB	3
Chien, S.	CHED	58	Cho, Y.	ENVR	655	Chorghade, M.	SCHB	9
Chiesa, R.	CHED	321	Cho, Y.	ENFL	248	Chorghade, M.	SCHB	20
Chikhale, R.V.	COMP	362	Chobanian, H.R.	MEDI	311	Chorilli, M.	MEDI	118
Childers, I.	POLY	529	Chockalingam, R.	COLL	756	Chorkendorff, I.	ENFL	218
Childers, W.E.	MEDI	65	Chodera, J.D.	COLL	696	Chorny, M.	COLL	468
Childress, K.	PMSE	295	Chodera, J.D.	COMP	423	Charpening, B.	PHYS	393
Childress, K.	POLY	573	Choe, J.	ENVR	500	Chou, C.	ENVR	812
Childs, C.	AGFD	323	Choe, J.	ENVR	741	Chou, C.	CHED	58
Chin, C.	PHYS	439	Choe, J.	ENVR	776	Chou, D.H.	WCC	8
Chin, D.	COMP	192	Choe, J.	POLY	336	Chou, L.	INOR	120
Chin, S.L.	POLY	339	Choe, U.	AGFD	146	Chou, P.	AGFD	114
Chin, Y.	ENVR	90	Choe, U.	AGFD	314	Chou, T.	COLL	7
Ching Yu, L.	COLL	223	Choe, Y.	POLY	305	Chou, T.	ENVR	586
Chio, T.I.	BIOL	33	Choi, B.	ANYL	104	Chou, T.	ENVR	592
Chio, T.	ORGN	387	Choi, I.	ENVR	353	Chou, T.	ENVR	626
Chiodo, L.	PHYS	102	Choi, J.	AGFD	105	Chou, Y.	COLL	250
Chiong, E.	COLL	572	Choi, B.	CATL	329	Chou, Y.	AGFD	107
Chiong, E.	COLL	780	Choi, B.	COLL	207	Choudary, S.K.	BIOL	239
Chiou, N.	PMSE	765	Choi, C.	PHYS	164	Choudhary, A.	BIOL	137
Chiou, P.	COLL	698	Choi, C.	MEDI	77	Choudhary, S.	AGRO	277
Chiou, Y.	AGFD	179	Choi, D.	ANYL	367	Choudhry, S.	CHED	13
Chiou, Y.	AGFD	205	Choi, G.	ORGN	26	Choudhry, S.M.	CHED	236
Chipot, C.	COMP	105	Choi, G.	INOR	25	Choudhury, M.R.	ENVR	23
Chipot, C.	COMP	435	Choi, H.	ANYL	499	Choudhury, M.R.	ENVR	593
Chira, O.	AGFD	189	Choi, H.	ANYL	534	Choudhury, R.	CHED	79
Chirayath, S.S.	NUCL	21	Choi, H.	COLL	58	Chougale, S.	PMSE	781
Chirik, P.J.	INOR	6	Choi, H.	ENVR	801	Chougale, S.	PMSE	785
Chirik, P.J.	INOR	21	Choi, H.	PHYS	365	Chough, S.	AGFD	159
Chirik, P.J.	INOR	26	Choi, H.S.	MEDI	90	Chouikhi, D.	CATL	302
Chirik, P.J.	INOR	403	Choi, H.	ENFL	227	Chouikhi, D.	POLY	415
Chirik, P.J.	ORGN	76	Choi, H.	ENVR	773	Chow, E.	ENVR	600
Chis, V.	COLL	40	Choi, I.	ENFL	531	Chow, J.	ENVR	393
Chisholm, J.D.	BIOL	260	Choi, J.	ENVR	414	Chow, K.	ANYL	439
Chisholm, J.D.	ORGN	182	Choi, J.	COMP	398	Chowdhury, A.	COLL	664
Chisholm, J.D.	ORGN	625	Choi, J.	CATL	459	Chowdhury, F.	COLL	335
Chisholm, J.D.	ORGN	657	Choi, J.	CATL	508	Chowdhury, R.A.	CELL	17
Chisholm, M.	CATL	234	Choi, J.	ENFL	548	Chowdhury, R.A.	CELL	58
Chisholm, M.J.	ENVR	573	Choi, J.	INOR	347	Chowdhury, R.A.	CELL	68
Chitemere, R.	COLL	432	Choi, J.	CATL	425	Chowdhury, R.A.	PMSE	681

Chowdhury, S.	ENFL	28	Chung, J.	PMSE	197	Clark, J.M.	AGRO	306
Chowdhury, S.	MEDI	359	Chung, K.	COLL	797	Clark, K.	POLY	124
Chowdhury, T.	COLL	737	Chung, K.	POLY	103	Clark, L.	ENVR	374
Choy, N.	AGRO	96	Chung, S.	ENVR	247	Clark, M.	CINF	149
Christ, J.	ENVR	665	Chung, S.	GEOC	17	Clark, P.M.	MEDI	212
Christa, P.	AGFD	272	Chung, T.	INOR	726	Clark, R.	NUCL	38
Christe, K.O.	ORGN	190	Chung, W.	ENVR	57	Clark, R.D.	AGRO	63
Christensen, E.	CATL	401	Chupka, G.	CATL	401	Clark, R.D.	COMP	526
Christensen, E.	ENFL	177	Chura, W.E.	COLL	482	Clark, R.	ORGN	549
Christensen, E.	ENFL	178	Church, B.	COMP	209	Clark, S.J.	CHED	285
Christensen, E.	INOR	682	Church, G.	ENVR	278	Clark, S.B.	GEOC	46
Christensen, J.G.	MEDI	144	Church, J.	POLY	45	Clark, S.B.	INOR	355
Christensen, M.	ORGN	545	Church, R.B.	PROF	39	Clark, T.	AGRO	373
Christensen, P.	PHYS	53	Churchill, J.	CHAS	7	Clark, T.P.	ORGN	37
Christensen, P.R.	PMSE	228	Chusuei, C.	ANYL	131	Clarke, D.D.	CHED	68
Christensen, S.A.	AGRO	218	Chusuei, C.C.	ANYL	477	Clarke, J.	ENVR	515
Christensen, S.A.	AGRO	219	Chuvashova, I.	PHYS	395	Clarke, R.G.	ORGN	66
Christensen, S.	CATL	361	Chuvilin, A.	COLL	112	Clarke, R.G.	ORGN	591
Christensen, S.B.	ORGN	560	Chyan, W.	BIOL	234	Clarke, S.M.	PHYS	190
Christensen, T.	ENFL	353	Ciancetta, A.	MEDI	385	Clarke, W.	MEDI	364
Christensen, T.	INOR	475	Cibrián Uhalte, E.	CINF	116	Clarkson, C.	CELL	68
Christian, K.	CHED	142	Cid, C.	ENVR	826	Clarkson, C.	PMSE	322
Christian, K.	CHED	143	Cidado, J.	MEDI	70	Clarkson, C.	PMSE	681
Christian, O.E.	CHED	142	Cieplak, P.	COMP	489	Classen, D.	AGRO	249
Christian, O.E.	CHED	143	Cierpicki, T.	BIOL	195	Clausen, M.	CARB	88
Christian, O.E.	CHED	307	Cierpicki, T.	MEDI	84	Clausen, M.	MEDI	211
Christiansen, T.L.	ENFL	279	Cierpicki, T.	MEDI	351	Clausen, M.	MEDI	352
Christiansen, T.L.	ENFL	357	Ciesielski, A.	MEDI	87	Clavaguera, C.	COMP	219
Christison, T.T.	AGFD	330	Ciesielski, P.N.	CELL	2	Claville, M.O.	PROF	30
Christidouleas, D.	ANYL	63	Ciesielski, P.N.	ENFL	299	Clayborne, A.Z.	COMP	161
Christopher, M.	MEDI	342	Cifone, N.A.	COMP	215	Clays, K.	PHYS	357
Christopher, S.	CATL	400	Cimmino, A.	AGRO	140	Clayton, T.D.	CHED	303
Christopoulos, A.	COMP	25	Cinar Ciftci, G.	COLL	69	Clayton, T.	PROF	36
Christott, T.	MEDI	266	Cinti, N.	ORGN	627	Cleland, G.	AGRO	113
Christou, G.	INOR	106	Cintora, A.	PMSE	415	Cleland, G.	ENVR	185
Christou, G.	INOR	507	Cintora, A.	PMSE	570	Cleland, N.	PHYS	407
Christou, G.	INOR	533	Cintron-Rivera, L.	CHED	166	Cleland, N.	PHYS	410
Christov, P.P.	MEDI	302	Ciobota, D.M.	MEDI	361	Clem, B.S.	POLY	335
Christy-Saviano, J.	I&EC	3	Cioffi, C.	MEDI	9	Clemens, R.	AGFD	47
Christy-Saviano, K.R.	I&EC	4	Ciofini, I.	COMP	9	Clement, C.C.	BIOL	38
Chronister, E.L.	PHYS	53	Ciou, S.	MEDI	366	Clement, C.C.	MEDI	132
Chruma, J.J.	ORGN	55	Cipollo, J.F.	ANYL	110	Clement, G.P.	CINF	109
Chu, Q.	POLY	614	Cipollo, J.F.	ANYL	418	Clements, M.	MEDI	279
Chu, C.	ENVR	109	Cipollo, J.F.	CARB	58	Clemons, P.A.	BIOL	281
Chu, C.	ENVR	216	Cirilo, J.	COLL	68	Clemons, P.A.	COMP	565
Chu, C.	ENVR	435	Cirne, C.T.	AGFD	122	Clerac, R.	INOR	157
Chu, F.	ANYL	491	Cirra, A.	PHYS	423	Cleveland, C.B.	AGRO	41
Chu, H.	MEDI	291	Cirri, A.	INOR	356	Cleveland, N.	CATL	361
Chu, H.	ENFL	478	Cirri, A.	PHYS	522	Cleves, A.E.	CINF	7
Chu, H.	ENVR	550	Cirri, A.	ENFL	518	Cleves, A.E.	COMP	73
Chu, I.	ENVR	584	Cirri, A.	ENFL	518	Cliff, J.B.	GEOC	42
Chu, J.	BIOL	133	Cisco, L.	BIOL	256	Clift, M.D.	ORGN	10
Chu, K.	ENVR	45	Cismesia, M.	AGRO	97	Climent, C.	PHYS	53
Chu, K.	ENVR	114	Ciston, J.	COLL	372	Cline, J.	POLY	456
Chu, K.	ENVR	188	Ciulla, D.A.	BIOL	219	Cline, J.	BIOL	89
Chu, K.	ENVR	229	Ciurli, S.L.	ENVR	451	Clinger, J.	AGRO	60
Chu, K.	ENVR	311	Claeyssens, F.	PMSE	72	Clippinger, A.	AGRO	60
Chu, K.	ENVR	311	Claeyssens, F.	PMSE	583	Clot, E.	INOR	593
Chu, N.	PMSE	784	Claeyssens, F.	PMSE	587	Cloughesy, T.F.	MEDI	212
Chu, T.	PHYS	438	Claeyssens, F.	INOR	657	Co, C.	COLL	157
Chu, T.	PHYS	574	Claeyssens, F.	ENVR	292	Coates, B.	AGRO	36
Chu, T.	ENFL	558	Claire, F.J.	BIOL	140	Coates, G.W.	PMSE	38
Chu, V.	ORGN	251	Clar, J.G.	BIOL	311	Coates, G.W.	PMSE	57
Chu, X.	CELL	44	Clardy, J.	PMSE	647	Coates, G.W.	PMSE	377
Chu, Y.	ENFL	521	Clardy, J.	INOR	657	Coates, G.W.	PMSE	638
Chu, Y.	MPPG	39	Claridge, S.A.	ENVR	292	Coates, G.W.	POLY	529
Chua, C.	COLL	436	Claridge, S.A.	BIOL	140	Coats, J.R.	AGRO	126
Chuang, C.	PHYS	412	Claridge, S.A.	BIOL	311	Coats, J.R.	AGRO	276
Chuang, Y.	ENVR	348	Claridge, S.A.	PMSE	647	Coats, J.R.	AGRO	277
Chuang, Y.	CATL	141	Claridge, S.A.	ANYL	329	Coats, J.R.	AGRO	293
Chuckwu, K.	CATL	51	Claridge, S.A.	ANYL	371	Coats, J.R.	AGRO	311
Chudasama, V.	ANYL	234	Claridge, S.A.	ANYL	436	Coats, J.R.	AGRO	358
Chueh, C.	PMSE	110	Claridge, S.A.	COLL	255	Coats, J.R.	AGRO	559
Chueh, W.	PHYS	534	Claridge, S.A.	COLL	446	Cobb, C.R.	INOR	67
Chukwu, C.	AGFD	270	Claridge, S.A.	COLL	446	Cobb, G.P.	ENVR	67
Chun, H.	PMSE	682	Claridge, S.A.	INOR	207	Cobb, S.	MEDI	167
Chun, H.	AGFD	109	Claridge, T.	BIOL	306	Coburn, C.	ORGN	683
Chun, H.	AGFD	334	Clark, A.	CINF	13	Cocco, A.	INOR	504
Chundawat, S.	CARB	89	Clark, A.	CINF	135	Cocco, A.	BIOL	112
Chundawat, S.	CARB	95	Clark, A.	CINF	150	Cochran, J.	ENVR	280
Chundawat, S.	CELL	9	Clark, A.	COMP	529	Cockerill, M.	MEDI	25
Chung, A.	NUCL	14	Clark, A.	MEDI	32	Codee, J.	CARB	115
Chung, C.K.	ORGN	40	Clark, A.	MEDI	114	Codrington, J.	PHYS	360
Chung, C.	ENVR	627	Clark, A.	MEDI	231	Cody, J.A.	CHED	397
Chung, D.	PMSE	475	Clark, A.	TOXI	86	Cody, J.A.	ORGN	21
Chung, D.	PMSE	539	Clark, A.	INOR	147	Coe, J.W.	MEDI	316
Chung, D.	ANYL	471	Clark, A.	COMP	487	Coelho, J.	INOR	539
Chung, E.	ENVR	101	Clark, A.E.	COMP	32	Coffer, J.L.	INOR	467
Chung, E.	ENVR	102	Clark, A.E.	GEOC	46	Coffin, S.	ENVR	280
Chung, E.	ENVR	662	Clark, A.E.	INOR	355	Coffin, S.	ENVR	390
Chung, E.	ENVR	725	Clark, A.E.	INOR	758	Coffin, S.	ENVR	683
Chung, E.	COLL	451	Clark, A.E.	NUCL	64	Coffman, A.H.	ENFL	396
Chung, J.Y.	ORGN	304	Clark, C.	CHED	227	Cogan, N.	PHYS	46
Chung, J.	POLY	103	Clark, D.D.	CHED	67	Cogdell, R.	PHYS	562
			Clark, D.L.	INOR	420	Cogdell, R.	CHED	248
			Clark, G.	CHED	383			
			Clark, H.	ANYL	260			
			Clark, H.	ANYL	322			
			Clark, J.D.	MEDI	319			
			Clark, J.M.	AGRO	36			

Cohen, A.	COMP	377	Colon, J.L.	INOR	55	Cooks, R.G.	COMSCI	9
Cohen, A.	COMP	343	Colon, J.L.	INOR	181	Cooksey, T.	POLY	287
Cohen, B.E.	COLL	384	Colon, J.L.	INOR	488	Cooley, J.	INOR	440
Cohen, B.E.	COLL	447	Colon, W.	CHED	194	Cooley, N.P.	ANYL	533
Cohen, B.E.	MPPG	68	Colon-Rodriguez, S.	ENVR	54	Cooper, A.I.	ENFL	454
Cohen, C.	COLL	345	Colson, Y.L.	BIOL	46	Cooper, A.I.	PMSE	457
Cohen, C.	MEDI	278	Colson, Y.L.	COLL	299	Cooper, A.I.	PMSE	7
Cohen, C.	MEDI	333	Colson, Y.L.	COLL	778	Cooper, J.A.	ORGN	422
Cohen, C.	MEDI	359	Colson, Y.L.	PMSE	477	Cooper, J.A.	ORGN	509
Cohen, J.	CHED	348	Colson, Y.L.	PMSE	784	Cooper, J.S.	ENVR	600
Cohen, M.	CARB	121	Colson, Y.L.	PMSE	814	Cooper, J.K.	ORGN	524
Cohen, N.	PHYS	35	Colucci, J.	BIOL	167	Cooper, J.	PMSE	65
Cohen, O.	CHED	158	Columbar, D.	MEDI	56	Cooper, N.J.	INOR	688
Cohen, R.	PHYS	186	Colvin, R.	MEDI	448	Cooper, N.J.	POLY	444
Cohen, S.	CATL	95	Colvin, V.L.	COLL	38	Cooper, N.J.	POLY	558
Cohen, S.	INOR	658	Comadoll, C.	ORGN	10	Cooper, S.	COLL	448
Cohen, S.	POLY	552	Come, J.	PHYS	531	Cooperman, G.	COMP	361
Cojocneanu-Petric, R.	MEDI	242	Comi Bonachi, M.	POLY	333	Coote, S.	ORGN	233
Coker, D.	ENFL	30	Compagnon, I.	ANYL	548	Coperet, C.	CATL	421
Coker, D.	PHYS	422	Comstock, L.	ANYL	430	Copp, S.M.	POLY	187
Coker, E.N.	GEOC	12	Conboy, J.C.	ANYL	447	Copping, R.	NUCL	8
Colacino, E.	ORGN	214	Conboy, J.C.	ANYL	454	Copping, R.	NUCL	9
Colaruotolo, L.A.	AGFD	97	Conca, K.R.	AGFD	77	Coquerel, Q.	AGRO	127
Colás, E.	NUCL	26	Conca, K.R.	AGFD	126	Cora, S.	ANYL	143
Colás, E.	NUCL	30	Conca, K.R.	AGFD	127	Corbin, B.A.	INOR	158
Colberg, J.C.	ORGN	80	Concannon, N.	ENFL	552	Corcoran, L.	COLL	5
Colby, A.	PMSE	51	Concheiro-Guisan, M.	ENVR	514	Cordero, R.	POLY	179
Colby, R.H.	PMSE	66	Conda-Sheridan, M.	AGRO	84	Cordero-Arreola, J.	CHED	288
Colby, R.H.	PMSE	488	Condie, A.G.	PMSE	460	Cordes, T.	PHYS	445
Colby, S.	ANYL	288	Condon, B.D.	AGFD	149	Cordiner, M.	PHYS	195
Coldren, W.H.	BIOL	126	Condon, B.D.	AGFD	171	Cordone, P.	COMP	339
Cole, B.W.	AGFD	85	Condon, J.B.	COLL	337	Cordone, P.	MEDI	357
Cole, B.W.	ENVR	573	Conduit, G.	COMP	135	Cordones, A.	PHYS	8
Cole, D.P.	POLY	454	Conduit, G.	COMP	505	Cordones, A.	PHYS	107
Cole, J.R.	ANYL	145	Cong, Y.	PMSE	83	Cordon-Obras, C.	MEDI	36
Cole, J.	POLY	464	Conger, R.	INOR	180	Cordon-Obras, C.	MEDI	38
Cole, M.	PMSE	149	Conger, R.	INOR	221	Cordova, D.	AGRO	169
Cole, M.	POLY	356	Congreve, D.	COLL	375	Cordova, I.	CATL	48
Cole, P.	PMSE	522	Congreve, D.	PHYS	333	Cordova, I.	PMSE	204
Cole, P.	COLL	703	Congreve, M.	MEDI	306	Coreas, R.	TOXI	68
Cole, P.	INOR	470	Conley, M.P.	INOR	755	Coriani, S.	PHYS	282
Cole, P.	PMSE	521	Connarn, K.	CHAL	7	Corilo, Y.	ENFL	155
Cole, R.S.	WCC	17	Connatser, R.M.	ENFL	177	Corley, C.A.	POLY	209
Coleman, E.	CATL	471	Connell, J.W.	ENFL	7	Corminboeuf, C.	INOR	18
Coleman, J.N.	ENFL	108	Connell, J.	ENFL	9	Corminboeuf, C.	PHYS	266
Coleman, J.N.	MPPG	64	Connell, J.	ENFL	205	Corn, R.M.	ANYL	213
Coleman, R.	BIOL	10	Connely, C.	ORGN	204	Cornebise, M.A.	MEDI	445
Coley, C.W.	CINF	166	Connely, C.M.	BIOL	132	Corneille, M.	PROF	8
Coley, C.W.	CINF	168	Connely, K.	INOR	763	Cornelius, C.J.	INOR	308
Coley, C.W.	COMSCI	2	Connick, W.B.	INOR	312	Cornelius, C.J.	PMSE	428
Coley, C.W.	COMSCI	7	Connolly, J.	AGRO	22	Cornelius, C.J.	PMSE	433
Coley, C.W.	ORGN	261	Connor, D.T.	POLY	256	Cornelius, C.J.	PMSE	556
Coley, C.W.	ORGN	408	Connor, R.E.	CHED	199	Cornelius, C.J.	PMSE	643
Göfien, H.	COLL	233	Connor, T.	AGRO	284	Cornelius, C.J.	PMSE	719
Göfien, H.	POLY	177	Connors, R.	MEDI	108	Cornelius, C.J.	PMSE	780
Colina, C.M.	COMP	358	Connors, R.	MEDI	322	Cornelius, C.J.	PMSE	817
Colina, C.M.	PMSE	426	Conole, D.	MEDI	289	Cornell, K.	INOR	744
Colina, C.M.	PMSE	541	Conrad, J.	PMSE	250	Cornet, B.	MEDI	368
Colleran, H.	AGFD	133	Considine, J.M.	COLL	403	Cornwall, P.	ORGN	207
Collet, T.	MEDI	86	Consortium, E.	PHYS	195	Cornwall, R.	BIOL	84
Colletti, S.L.	MEDI	311	Constable, D.J.	CHED	406	Corona, C.L.	AGRO	276
Colley, A.	ANYL	482	Constable, D.J.	ENVR	313	Corona, C.L.	AGRO	358
Collier, C.P.	COLL	664	Contreras, A.V.	ENVR	506	Coronado, E.	INOR	15
Collier, G.S.	PMSE	403	Contreras, L.M.	COMP	191	Corr, S.	INOR	523
Collier, P.	CATL	112	Convery, M.	MEDI	271	Corradi, V.	COMP	103
Collier, T.L.	ENFL	537	Conway, E.K.	PHYS	481	Corradini, M.	AGFD	97
Collin, B.	BIOL	173	Conway, S.J.	BIOL	123	Corradini, M.	AGFD	125
Collins, C.R.	INOR	223	Conway, S.J.	BIOL	306	Corrales, M.	PHYS	15
Collins, G.	MEDI	66	Conway, S.J.	MEDI	312	Corrales, M.	PHYS	38
Collins, J.	AGFD	337	Conway, S.J.	MEDI	346	Corrales, M.	PHYS	257
Collins, J.	BIOL	138	Conway, S.J.	MEDI	348	Correa, S.	COLL	466
Collins, J.L.	ORGN	269	Cook, A.W.	INOR	113	Correa, S.	COLL	568
Collins, J.L.	ORGN	401	Cook, C.D.	AGRO	246	Correa, S.	COLL	775
Collins, J.	AGRO	20	Cook, J.M.	MEDI	89	Correia, B.	MEDI	29
Collins, L.	POLY	292	Cook, J.M.	MEDI	95	Corson, E.R.	ENFL	373
Collins, M.R.	MEDI	282	Cook, J.M.	MEDI	189	Cort, J.R.	ANYL	288
Collins, N.	CINF	54	Cook, J.M.	ORGN	659	Cortelletti, P.	INOR	578
Collins, N.	COMSCI	3	Cook, K.	POLY	419	Corter, D.	INOR	562
Collins, N.	COMSCI	6	Cook, K.	BIOL	105	Cortes, C.	CHED	393
Collins, N.	ORGN	262	Cook, M.	BIOL	130	Cortes, F.	PRES	29
Collins, S.L.	BIOL	123	Cook, M.	BIOL	208	Cortés-Benitez, F.	MEDI	375
Collins, S.	AGFD	338	Cook, M.T.	NUCL	79	Cortese, B.	MPPG	69
Collins, S.	PHYS	426	Cook, T.R.	ENFL	31	Cortese, R.	CATL	467
Collins, S.K.	ORGN	409	Cook, T.R.	INOR	178	Cortez, R.	INOR	671
Collinson, M.M.	ANYL	218	Cook, T.R.	INOR	237	Cortez, R.E.	AGFD	55
Collinson, M.M.	COLL	762	Cook, T.R.	INOR	638	Cortezon-Tamarit, F.	COLL	607
Collison, M.	AGFD	12	Cook, T.R.	INOR	663	Cortezon-Tamarit, F.	INOR	637
Collum, D.B.	ORGN	149	Cook, T.R.	PMSE	555	Cosby, A.	INOR	428
Colman, D.	BIOL	309	Cooke, A.	BIOL	257	Coscarelli, E.	ENVR	286
Colman, D.	ORGN	399	Cooke, A.	MEDI	112	Coscia, B.	COMP	396
Colombani, T.C.	POLY	15	Cooke, I.	PHYS	370	Coscia, B.	PMSE	64
Colombo, N.	MEDI	362	Cooks, R.G.	ANYL	557	Cosgriff, C.V.	ORGN	454
Colomier, C.	INOR	675	Cooks, R.G.	CHED	439	Cosgriff-Hernandez, E.	PMSE	69

Cosgriff-Hernandez, E.	POLY	67	Crans, D.C.	MEDI	195	Cruz Ruiz, G.	AGFD	142
Coskun, A.	PMSE	242	Crans, D.C.	MEDI	386	Cryan, M.T.	ANYL	123
Cossaboon, J.	ENVR	89	Crassous, J.	HIST	19	Cryan, S.	POLY	237
Cossairt, B.	INOR	8	Cravatt, B.	MEDI	29	Cryer, S.	AGRO	273
Cossairt, B.M.	ANYL	552	Cravotto, G.	ORGN	214	Csanyi, G.	CINF	124
Cossairt, B.M.	INOR	205	Crawford, D.E.	ORGN	218	Csanyi, G.	COMP	175
Cossairt, B.M.	MPPG	28	Crawford, J.	BIOL	160	Csanyi, G.	COMP	180
Cossio, P.	COMP	63	Crawford, J.	BIOL	166	Csernica, P.	COMP	548
Costa, A.B.	PHYS	569	Crawford, J.	ORGN	375	Csizmadia, E.	INOR	89
Costa, C.D.	MEDI	118	Crawford, M.	PROF	10	Cubides, Y.	PMSE	728
Costa, P.	ORGN	241	Crawford, M.	PROF	18	Cubides, Y.	PMSE	730
Costa, P.	INOR	359	Crawford, M.	WCC	22	Cubria, M.	BIOL	287
Costa, R.	ENFL	276	Crawford, S.	COLL	675	Cue, B.W.	YCC	18
Costache, A.D.	CHED	435	Crawford, S.	INOR	424	Cueto, M.	COMP	433
Costache, A.D.	CINF	78	Crawley, M.R.	INOR	178	Cui, C.	AGFD	155
Costantini, M.	PMSE	673	Creel, E.B.	ENFL	373	Cui, C.	CATL	427
Costantini, M.	ORGN	308	Creemer, L.	AGRO	212	Cui, C.	ENFL	187
Costanzi, S.	COMP	343	Cremer, P.S.	ANYL	214	Cui, D.	ENVR	112
Costanzi, S.	MEDI	451	Cremons, D.R.	PHYS	203	Cui, J.	COMP	465
Costas, M.	ORGN	661	Cresco, G.A.	CELL	29	Cui, J.	POLY	513
Costello, C.E.	ANYL	421	Cresco, P.	CHED	289	Cui, J.	ENFL	274
Costello, C.E.	CARB	10	Cresco-Medina, M.	ENVR	148	Cui, J.	COLL	527
Costello, C.E.	CARB	14	Cresco-Yapur, D.A.	CATL	335	Cui, J.	ENVR	19
Costello, C.E.	CARB	74	Cress, B.	BIOL	71	Cui, J.	ENVR	755
Costentin, C.	ENFL	250	Creton, C.	PMSE	82	Cui, Q.	ENVR	48
Costeux, S.	POLY	12	Crette, S.	POLY	96	Cui, R.	POLY	588
Cote, A.	BIOL	164	Crew, J.	ORGN	434	Cui, W.	COLL	437
Cottet, H.	COLL	789	Crich, D.	CARB	97	Cui, W.	CATL	286
Cotton, D.E.	PHYS	335	Crich, D.	MEDI	378	Cui, W.	ENVR	207
Cottrill, A.	COLL	740	Crick, D.	COLL	644	Cui, W.	GEOC	51
Cottrill, A.	ENFL	506	Crick, D.	MEDI	195	Cui, X.	ENVR	296
Cottrill, A.	ORGN	416	Crickmore, C.	CHED	350	Cui, X.	COLL	227
Cottrill, A.	PHYS	535	Crimi, M.	ENVR	309	Cui, X.	MPPG	32
Cottrill, A.	PMSE	71	Criscenti, L.J.	GEOC	6	Cui, Y.	ENVR	139
Couch, D.E.	PHYS	197	Criscenti, L.J.	GEOC	8	Cui, Y.	ENFL	202
Couch, D.E.	PHYS	386	Criscenti, L.J.	GEOC	22	Cui, Y.	PMSE	33
Coughlin, B.	CATL	296	Criscenti, L.J.	GEOC	34	Cui, Y.	PMSE	39
Coughlin, B.P.	COLL	95	Critchlow, S.	ORGN	549	Cui, Y.	PMSE	221
Coughlin, B.P.	COLL	614	Crittenden, J.C.	ENVR	283	Cui, Y.	BIOL	202
Coughlin, B.P.	COLL	688	Crittenden, J.C.	ENVR	285	Cui, Y.	ENVR	131
Coughlin, E.B.	ENFL	318	Crittenden, J.C.	ENVR	394	Cui, Y.	TOXI	13
Coughlin, E.B.	POLY	590	Crockett, M.P.	INOR	294	Cui, Z.	COLL	256
Coulemnier, O.R.	PMSE	59	Crockett, M.P.	ORGN	77	Cui, Z.	COLL	257
Coulemnier, O.R.	PMSE	520	Crockett, M.P.	ORGN	100	Cukan, M.	INOR	566
Coulibaly, F.S.	PHYS	452	Croft, T.L.	ENVR	751	Cuko, A.	PHYS	571
Coull, J.A.	MEDI	1	Croley, T.R.	COLL	171	Cullen, C.	NUCL	10
Coulther, T.A.	COMP	369	Cromer, B.	COMP	68	Cullen, D.	CATL	141
Coulther, T.A.	TOXI	59	Crompton, N.M.	ENVR	389	Cullen, D.	ENFL	188
Courtenay, S.	COLL	404	Cromwell, B.	PMSE	434	Cullen, J.D.	CHED	344
Courtin, T.	POLY	316	Cronin, L.	CINF	34	Culp, W.T.	COLL	776
Coussot, P.	PMSE	280	Cronin, L.	COMSCI	4	Culver, D.	INOR	755
Coutts, D.	ENVR	330	Cronin, L.	INOR	198	Culver, H.	PMSE	171
Covaci, A.	ENVR	504	Cronin, L.	INOR	107	Culver, H.	POLY	432
Covaci, A.	ENVR	512	Cronin, S.	MPPG	97	Cummings, A.	COMP	434
Covaci, A.	ENVR	714	Cronk, H.	ENVR	556	Cummings, A.	ORGAN	164
Covaci, A.	ENVR	790	Croom, A.	POLY	37	Cummings, C.	POLY	17
Cowan, J.E.	INOR	724	Cropek, D.M.	ENVR	482	Cummings, C.	POLY	290
Cowan, J.E.	INOR	744	Crossley, M.J.	PHYS	518	Cummings, L.	ORGN	272
Coward, D.	INOR	94	Crossley, S.	CATL	173	Cummings, M.D.	COMP	227
Cowden, J.	CINF	32	Crossley, S.	CATL	445	Cummings, M.R.	PROF	51
Cox, B.	COLL	507	Crossman, A.S.	CATL	206	Cummings, R.	BIOL	108
Cox, B.	COMP	435	Crossman, A.S.	ENFL	559	Cummings, R.	CARB	12
Cox, J.	ENFL	311	Crossman, A.S.	INOR	350	Cummings, R.	CARB	27
Cox, J.M.	ANYL	410	Croteau, M.L.	INOR	763	Cummings, R.	CARB	96
Cox, J.M.	CATL	278	Crouch, G.	ANYL	267	Cummings, C.C.	INOR	262
Cox, M.	AGRO	228	Croue, J.	ENVR	351	Cummins, C.C.	INOR	648
Cox, N.	PHYS	195	Crouillere, M.	PMSE	712	Cummins, C.C.	INOR	649
Cox, S.	PHYS	554	Crowe, C.D.	COLL	70	Cunci, L.	ANYL	119
Coyle-Rees, M.	AGRO	378	Crowley, M.F.	CELL	2	Cunci, L.	BIOL	77
Coyle-Rees, M.	BMGT	7	Crowley, M.F.	CELL	3	Cundari, T.R.	COMP	350
Coyne, A.G.	MEDI	454	Crowley, M.F.	COMP	98	Cundari, T.R.	INOR	32
Coyne, B.	COLL	23	Crowley, M.F.	COMP	107	Cundari, T.R.	INOR	36
Coyne, B.	ENVR	821	Crowley, M.F.	COMP	439	Cundari, T.R.	INOR	37
Cozzolino, A.F.	CATL	204	Croxall, M.	COLL	175	Cundari, T.R.	INOR	232
Cozzolino, A.F.	INOR	386	Cruceta, L.	BIOL	219	Cundari, T.R.	INOR	691
Crabtree, K.N.	PHYS	503	Cruciani, G.	MEDI	263	Cunden, L.	INOR	769
Crabtree, R.H.	CATL	368	Crull, T.	ORGN	577	Cunha, J.A.	AGRO	75
Crabtree, S.	INOR	151	Crumlin, E.	CATL	47	Cunha, J.A.	AGRO	314
Crabtree, S.	INOR	153	Crumlin, E.	CATL	98	Cunningham, A.	MEDI	194
Craig, H.	ENVR	601	Crumlin, E.	CATL	181	Cunningham, L.	INOR	605
Craig, P.A.	BIOL	86	Cruz, A.	ENFL	9	Cunningham, L.	INOR	609
Craig, S.	PMSE	229	Cruz, C.	COMP	31	Cunningham, V.	PMSE	65
Craige, C.	AGRO	117	Cruz, C.	COLL	18	Cuny, G.D.	ORGN	67
Crain, C.A.	ENFL	298	Cruz, C.	ANYL	515	Cuong Nguyen, C.	ANYL	522
Cramer, C.J.	CATL	43	Cruz, C.	PHYS	53	Curado, C.	CATL	157
Cramer, C.J.	CATL	391	Cruz, C.	CHED	399	Curchod, B.	ORGN	245
Cramer, C.J.	COMP	205	Cruz, F.	COLL	663	Curchod, B.	PHYS	178
Cramer, C.J.	COMP	400	Cruz, J.	COLL	598	Curley, P.	COLL	784
Cramer, J.W.	MEDI	321	Cruz, J.	ORGN	598	Curran, D.P.	ORGN	634
Cramer, L.	CATL	393	Cruz, J.P.	MEDI	446	Curran, J.N.	CINF	99
Cramer, L.	COLL	614	Cruz, M.A.	TOXI	62	Curry, E.	ANYL	274
Crans, D.C.	COLL	644	Cruzeiro, V.D.	COLL	254	Curry, M.	ENVR	213
Crans, D.C.	INOR	230	Cruz Pereira, J.	COMP	421	Curtarolo, S.	PHYS	305
				COMP	138			

Curtarolo, S.	PHYS	307	Dai, S.	POLY	148	Dapsens, P.Y.	CATL	480
Curtis, M.P.	ORGN	497	Dai, W.	BIOL	314	Dar, I.M.	ENFL	542
Curtiss, L.A.	ENFL	203	Dai, X.	AGFD	61	Daraniyagala, S.	AGRO	242
Curto, J.	ORGN	133	Dai, X.	AGFD	260	Darapaneni, P.	INOR	51
Curtsinger, S.	ORGN	406	Dai, Z.	PMSE	359	Darapaneni, P.	INOR	630
Cusack, K.P.	MEDI	8	Dai, Z.	COLL	250	Darby, M.	COLL	147
Cusack, K.P.	MEDI	10	Daigle, D.	INOR	591	Dardir, A.	INOR	291
Cushing, S.K.	PHYS	221	Daigle, K.	BMGT	5	Dardona, S.	PMSE	663
Cushman, M.	MEDI	296	Dailey, G.P.	MEDI	68	Darensbourg, D.J.	INOR	405
Cusick, R.D.	ENVR	458	Dailey, L.	POLY	486	Darensbourg, M.Y.	INOR	215
Cusson, M.	AGRO	310	Daives, B.	MEDI	194	Darensbourg, M.Y.	INOR	374
Custar, D.	ORGN	544	Da Jornada, F.	COMP	126	Dares, C.	ENVR	764
Custelcean, R.	I&E	47	Dakka, A.	MEDI	286	Daristotle, J.L.	COLL	413
Custelcean, R.	I&E	56	Dalai, A.K.	CELL	6	Darley-Usmar, V.M.	MEDI	302
Custelcean, R.	POLY	572	Dalal, N.S.	COLL	44	Darmadi, S.	COLL	489
Cutcher-Gershenfeld, J.	CINF	87	Dalal, N.S.	INOR	756	Darmanin, T.	PMSE	189
Cutinho, J.	COLL	684	Dalbey, R.E.	BIOL	243	Darmanin, T.	PMSE	395
Cutler, C.S.	NUCL	7	Dalby, K.	BIOL	276	Da Rocha, L.	ANYL	176
Cutler, C.S.	NUCL	10	Dalby, K.	MEDI	23	Darosa, K.	ENVR	596
Cutler, C.S.	NUCL	77	Dale, S.G.	COMP	547	Darter, A.	BIOL	228
Cutler, C.E.	BIOL	108	Daley, C.	MEDI	279	Darter, A.	MEDI	422
Cutler, G.	MEDI	26	Dall'Agnese, Y.	ENFL	38	Darvari, R.	TOXI	93
Cutolo, G.	CARB	69	Dalmas, F.	POLY	299	Darvas, F.	COLL	332
Cwalina, C.	PMSE	798	Dal Peraro, M.	COMP	253	Darvas, F.	ORGN	181
Cwik, S.	INOR	161	Dalton, R.	CHED	260	Darvas, F.	YCC	24
Cynamon, M.H.	MEDI	115	Dalvit, C.	BIOL	267	Darzi, E.	PMSE	376
Cyr, M.G.	COMP	530	Daly, M.	INOR	321	Das, A.	COLL	384
Cyrille, C.	INOR	101	Daman, N.	POLY	16	Das, A.	ANYL	193
Czajka, A.	COLL	587	Dames, T.M.	POLY	256	Das, A.	ORGN	68
Czaplyski, W.	POLY	603	Dametto, A.	CINF	4	Das, A.	PMSE	253
Czekner, J.G.	PHYS	369	Damewood, J.R.	AGRO	61	Das, D.	COMP	568
Czekner, J.G.	PHYS	463	Damgaard, M.	MEDI	137	Das, J.	ANYL	41
D'Achille, A.	INOR	467	Damkaci, F.	ORGN	143	Das, K.K.	ENVR	393
D'Ambrosio, K.M.	CHED	317	Damm, W.	COMP	28	Das, M.	MEDI	141
D'Anello, M.	MEDI	362	Damon, D.	ORGN	601	Das, M.	PHYS	569
D'Angelo, P.	COLL	279	Damon, P.	INOR	113	Das, P.	COMP	134
D'Angelo, P.	COLL	748	Dampf, S.J.	PHYS	473	Das, R.K.	COMP	214
D'Angelo, P.	POLY	447	Damrauer, N.H.	ORGN	74	Das, R.	COLL	193
D'Eon, J.	PMSE	725	Dan, D.	NUCL	52	Das, R.	COLL	199
D'Eon, J.	PMSE	797	Dana, S.	MEDI	13	Das, R.	COLL	260
D'Este, E.	ORGN	256	Dana, W.	NUCL	20	Das, R.	COLL	536
D'Souza, N.	BIOL	99	Danaceau, J.	ANYL	308	Das, R.	COLL	689
D'Souza, M.	CINF	64	Danao, M.	AGFD	115	Das, R.	COLL	766
Da, L.	COMP	544	Danchik, C.	MEDI	83	Das, R.	INOR	764
Da'Er, S.	ENVR	20	Dandu, N.K.	COMP	523	Das, R.	PMSE	561
Dabbawala, A.	CARB	31	Danfora, A.	COMP	343	Das, R.	POLY	379
Dabney-Smith, C.	CHED	182	Dang, A.	ENFL	83	Das, S.	BIOL	196
Dac, D.	MEDI	282	Dang, C.V.	MEDI	302	Das, S.	PHYS	390
Dachineni, R.	BIOL	229	Dang, H.	CATL	324	Das, S.	COMP	11
Da Costa, A.	PMSE	680	Dang, H.	ORGN	9	Das, S.	PHYS	534
Da Costa, A.	PMSE	812	Dang, L.	INOR	29	Dasary, S.S.	ENVR	194
Dadheech, T.	AGFD	263	Dang, L.	ENFL	503	Daschakraborty, S.	PHYS	93
Dadmun, M.D.	POLY	166	Dang, L.	PMSE	820	Daschakraborty, S.	PHYS	387
Dadmun, M.D.	POLY	431	Dang, N.L.	COMP	303	Dasgupta, A.	CATL	300
Daemen, L.	CATL	115	Dang, N.L.	COMP	459	Dasgupta, J.	ORGN	68
Daeuble, J.F.	AGRO	172	Dang, V.	AGRO	293	Dasgupta, N.P.	ENFL	140
Daga, P.R.	AGRO	63	Dang, T.Q.	ENVR	733	Dasgupta, P.K.	ANYL	349
Daga, P.R.	COMP	526	Dang, T.Q.	ENVR	818	Dasgupta, T.P.	INOR	179
Dagaut, P.	ENFL	483	Dangerfield, A.	COLL	121	Das Gupta, S.	INOR	106
Daggag, D.A.	COMP	359	Dangi, A.	ANYL	186	Dash, A.	I&E	48
Dagle, R.	CATL	9	Dangi, A.	COMP	155	Dash, S.	COLL	555
Dahan, M.	COLL	526	Danhausen, D.M.	COLL	191	Dasilva, N.	AGFD	50
Daher, R.	CHED	51	Danheiser, R.L.	CINF	31	Dasilva, N.	AGFD	194
Daher, R.	PMSE	729	Danheiser, R.L.	ORGN	238	Da Silva, P.B.	MEDI	118
Daher, S.	MEDI	226	Dani, A.	POLY	248	Da Silva, S.	CINF	24
Daher, S.	MEDI	336	Daniel, C.	INOR	63	Dass, L.	BIOL	87
Dahl, J.C.	PHYS	221	Daniel, D.P.	ORGN	286	Dassanayake, A.C.	ENVR	140
Dahlen, G.M.	SCHB	6	Daniel, S.	POLY	488	Dassanayake, A.C.	I&E	51
Dahlen, P.	ENVR	491	Daniele, M.A.	ANYL	224	Dassanayake Mudiyansele, T.	INOR	457
Dahms, F.	PHYS	324	Daniele, M.A.	ANYL	324	Dassuncao, C.	ENVR	732
Dahnovsky, Y.	COMP	78	Daniele, M.A.	ANYL	328	Dastan, D.	PMSE	116
Dahod, N.	INOR	530	Daniele, M.A.	POLY	65	Dastmalchi, K.	AGFD	189
Dai, C.	ENVR	539	Daniels, G.C.	COLL	336	Dastmalchi, K.	CHED	48
Dai, C.	GEOC	31	Daniels, G.C.	POLY	211	Dator, R.	TOXI	52
Dai, C.	GEOC	32	Daniels, G.C.	POLY	443	Dator, R.P.	TOXI	16
Dai, D.	ENVR	149	Daniels, G.C.	POLY	553	Dator, R.P.	TOXI	56
Dai, H.	ANYL	2	Daniels, G.C.	COLL	39	Datta, G.R.	ANYL	186
Dai, H.	MEDI	234	Danielson, P.B.	ANYL	490	Datta, P.	POLY	338
Dai, H.	PHYS	385	Danielson, T.	CATL	223	Dattani, N.	PHYS	29
Dai, J.	ENVR	48	Danjela, G.	COLL	112	Datye, A.K.	CATL	242
Dai, L.	ENFL	162	Danilchanka, O.	MEDI	328	Dauenhauer, P.J.	CATL	10
Dai, L.	ANYL	33	Danish, M.	INOR	409	Dauenhauer, P.J.	CATL	226
Dai, M.	AGFD	175	Dankers, P.Y.	PMSE	357	Dauenhauer, P.J.	CATL	489
Dai, N.	AGRO	18	Dannatt, J.E.	ORGN	126	Daugherty, L.L.	MEDI	330
Dai, N.	ENVR	688	Dansby-Sparks, R.	MEDI	427	Daughton, C.G.	ENVR	785
Dai, Q.	AGFD	225	Dantas, G.	MEDI	48	Daugulis, O.	ORGN	140
Dai, S.	CATL	69	Dantus, M.	PHYS	318	Dauphin Ducharme, P.	ANYL	424
Dai, S.	CATL	371	Dantus, M.	PHYS	440	Dauskaradt, R.	PMSE	198
Dai, S.	CATL	454	Dantus, M.	PHYS	446	Davan, R.	CHED	64
Dai, S.	COLL	425	Dantus, M.	PHYS	464	Davari Esfahani, M.	PHYS	189
Dai, S.	ENFL	524	Dao, Q.	PMSE	654	David, J.J.	PHYS	413
Dai, S.	I&E	55	Daoulas, K.	PMSE	622	David, J.	CINF	152
Dai, S.	INOR	98	Dapena, J.A.	ENFL	375	David, L.	COLL	339

David, S.S.	BIOL	294	Debenedetti, P.G.	COMP	29	Delalande, S.	POLY	203
Davidson, A.L.	CATL	117	Debets, M.	CARB	108	Delalande, S.	POLY	206
Davidson, E.C.	PMSE	622	De Bettencourt Dias, A.	INOR	1	De La Lande, A.	COMP	219
Davidson, K.	MEDI	144	De Bettencourt Dias, A.	INOR	421	Delaney, B.	AGRO	67
Davidson, R.B.	PHYS	381	Deblase, A.F.	ENFL	156	Delaney, K.T.	POLY	585
Davidson, R.B.	PHYS	397	Debnath, A.	COLL	602	Delaney, S.	TOXI	15
Davidson, S.	ORGN	459	Debnath, S.	COLL	333	Delaney, S.	TOXI	42
Davidson, S.	ORGN	522	Deboef, B.L.	ENVR	596	Delaney, S.	TOXI	48
Davies, A.	ORGN	133	Deboef, B.L.	MEDI	102	Delaney, S.	TOXI	53
Davies, D.R.	MEDI	302	Deboef, B.L.	ORGN	122	Delaney, S.	TOXI	58
Davies, H.	MEDI	271	Deboef, B.L.	ORGN	255	Delannée, V.	CINF	167
Davies, J.A.	CINF	67	Deboef, B.L.	ORGN	468	Delano, T.	CHED	260
Davies, J.A.	CINF	76	Deboef, B.L.	ORGN	531	De La Pierre, M.	GEOC	28
Davies, J.A.	CINF	117	Deboef, B.L.	ORGN	582	Delariva, A.	CATL	242
Davies, K.E.	MEDI	289	Debord, J.	ANYL	292	Delarue, M.	COMP	68
Davies, K.	CATL	312	De Borggraeve, W.M.	ORGN	605	De La Vega De León, A.	CINF	155
Davies, K.	ENFL	15	De Bruyn, W.J.	CHED	227	De Lázaro Del Rey, I.	COLL	364
Davies, K.	POLY	62	De Bruyn Kops, C.	AGRO	86	Del Ben, M.	COMP	126
Davies, S.G.	MEDI	289	De Bruyn Kops, C.	CINF	22	Del Bianco, S.	ENVR	227
Davis, A.	POLY	97	Decarlo, C.	CHED	76	Del Bonis O'Donnell, J.	BIOL	11
Davis, A.H.	COLL	224	De Carvalho, L.S.	MEDI	118	Del Cerro, M.	ENVR	458
Davis, A.H.	COLL	245	De Castro, N.V.	AGRO	339	Delegard, C.	GEOC	46
Davis, A.E.	INOR	503	De Chassey, B.	BIOL	62	Delehanty, J.	COLL	441
Davis, A.V.	INOR	289	Decherchi, S.	COMP	75	Delehanty, J.	COLL	611
Davis, A.J.	ORGN	50	Decho, A.	ENVR	667	Delehanty, J.	COLL	704
Davis, B.L.	ENFL	558	Decho, A.	POLY	349	Deleo, M.	COMSCI	3
Davis, C.	BIOL	128	Decicco, E.	ORGN	21	De Lera Ruiz, M.	MEDI	82
Davis, C.	BIOL	175	De Cirugeda Helle, O.	AGRO	273	Delerue, C.	COLL	679
Davis, D.	AGRO	9	Decker, D.M.	CHAS	27	Delgado, D.	COLL	415
Davis, J.	INOR	776	Decker, G.E.	INOR	229	Delgado, D.	PMSE	345
Davis, J.	AGRO	356	Decker, G.E.	INOR	244	Delgado, E.	INOR	712
Davis, J.	MPPG	2	Decker, S.	CHED	44	Delgado, J.D.	PMSE	184
Davis, K.	MEDI	445	Decker, S.	MEDI	359	Delgado, S.	PMSE	771
Davis, M.P.	PHYS	465	De Coen, R.	POLY	273	Delia, R.	COMP	388
Davis, M.M.	MEDI	301	Decoste, J.	CATL	94	Dellas, N.	CATL	160
Davis, R.	COLL	747	Decoste, J.	INOR	740	Delle Chiaie, K.R.	INOR	90
Davis, R.	PMSE	474	Decoste, J.B.	POLY	552	Delle Chiaie, K.R.	INOR	643
Davis, T.	BIOL	245	Decottignies, A.	INOR	64	Dellon, L.D.	ENFL	305
Davis, T.	BIOL	260	Decuir-Gunby, J.	PROF	1	Delogu, F.	ORGN	214
Davis, T.	CHED	193	Decultot, L.	ORGN	251	Delongchamp, D.	PMSE	199
Davis, T.	POLY	131	Dedova, O.	AGFD	238	Delongchamp, D.	PMSE	657
Davis, T.C.	ANYL	329	Deeley, J.	CATL	374	Delor, M.	PHYS	99
Davis, T.C.	COLL	255	Deemyad, S.	PHYS	584	Delorbe, J.	AGRO	172
Davis, V.A.	CELL	55	De Fabritiis, G.	CINF	122	Delp, S.A.	ENFL	351
Davis, V.A.	CELL	56	De Fabritiis, G.	COMP	460	Delparastan, P.	PMSE	255
Davison, B.H.	CELL	10	Defazio, D.	CHED	349	Del Pino, P.	COLL	363
Davison, B.H.	CELL	13	Deflorian, F.	MEDI	306	Delrio, F.	COLL	797
Davisson, V.J.	MEDI	163	De Franco, M.A.	ENVR	136	Del Rio, B.G.	COMP	84
Davoren, J.E.	MEDI	316	De Geest, B.	COLL	397	Del Rio, D.	AGFD	191
Davydov, A.V.	ANYL	477	De Geest, B.	PMSE	44	Del Rosario, J.	MEDI	370
Davydovich, O.	COMP	42	De Geest, B.	POLY	273	Del Toro, D.E.	INOR	55
Dawber, M.	COMP	443	De Geest, B.	POLY	317	Del Toro-Pedrosa, D.E.	INOR	181
Dawes, R.	COMP	517	De Gehenard, R.	AGRO	340	De Luna, M.M.	COLL	319
Dawes, R.	PHYS	28	Degirmenci, A.	POLY	80	Del Valle, J.R.	ORGN	150
Dawes, R.	PHYS	176	Degnan, A.P.	MEDI	265	Del Valle, J.R.	ORGN	159
Dawes, R.	PHYS	295	Degner, A.	TOXI	79	De Macedo, J.L.	CATL	311
Dawid, C.	AGFD	106	Degeo, J.A.	MEDI	369	Demaerel, J.	ORGN	605
Dawid, C.	AGRO	110	De Graaf, C.	MEDI	306	Demarco, C.	AGRO	156
Dawlaty, J.	PHYS	5	Degrad, W.F.	ORGN	329	Demares, F.	AGRO	127
Dawlaty, J.	PHYS	264	Degraffenreid, A.	NUCL	10	Demario, J.H.	CHED	247
Dawood, F.	COLL	117	Degroot, A.C.	COLL	645	Demassa, J.	BIOL	162
Dawood, S.	PMSE	542	De Groot, F.	PHYS	219	Dembinski, R.	ORGN	590
Dawood, S.	PMSE	705	Degruyter, J.N.	WCC	3	Dembowski, M.	GEOC	46
Dawson, K.	BIOL	317	De Haan, N.	ANYL	422	Dembowski, M.	INOR	355
Dawson, K.	COLL	566	Dehaudt, J.	INOR	98	Demchenko, D.O.	COLL	681
Dawson, K.	COLL	768	Dehez, F.	COMP	105	Demchenko, D.O.	INOR	472
Dawson, K.A.	COLL	604	Dehipawala, S.	CHED	267	Demchenko, D.O.	INOR	585
Dawson-Scully, K.	CHED	300	Dehipawala, S.	COLL	195	Demchenko, D.	COLL	314
Day, E.S.	COLL	48	Dehnhardt, C.M.	MEDI	278	Deme, J.	POLY	376
Day, R.	BIOL	282	Dehnhardt, C.M.	MEDI	333	Demeester, K.	CARB	111
Day, R.W.	ENFL	164	Dehnhardt, C.M.	MEDI	359	Demejia, E.G.	AGFD	55
Dayal, B.	MEDI	225	De Hoe, G.	POLY	199	Demejia, E.G.	AGFD	59
Dayan, F.	AGRO	104	Deibler, K.D.	AGFD	305	Demeke, T.	ENVR	425
Daye, J.	ORGN	272	Deignan, J.	MEDI	322	Demeke, T.	ENVR	745
Dayfield, D.J.	CHED	167	Deiss, F.	ANYL	62	De Mello, J.	PMSE	622
Dayoub, A.S.	INOR	570	Deiss, F.	ANYL	156	De Meo, C.	CARB	61
De, S.K.	MEDI	430	Deiss, F.	ANYL	295	Demichelis, R.	GEOC	28
Deak, J.C.	COLL	249	Dejesus, J.F.	COLL	635	Deming, T.J.	POLY	599
Deamicis, C.	AGRO	134	De Jong, K.	CATL	374	Demirci, S.	PMSE	590
Dean, D.	MEDI	4	De Jong, K.	CATL	381	Demirel, G.	ANYL	405
Dean, J.	CATL	86	De Jongh, P.	CATL	374	Demirer, G.	AGFD	173
Dean, R.A.	MEDI	330	Dekai, Z.	ENFL	405	Demmert, B.	GEOC	16
Dean, T.	ANYL	60	Dekhang, R.	ANYL	379	Demong, D.	MEDI	311
Dean, W.	CHED	171	Dekhtyar, T.	MEDI	369	Demopoulos, G.P.	ENFL	349
Dean, W.	INOR	568	De-Koning, H.	MEDI	37	De Moraes, R.	AGRO	193
De Andrade, V.	GEOC	52	Dekorver, K.	AGRO	172	De Moura, A.	COLL	678
De Angelis, F.	COMP	197	Dekun, M.	CATL	334	Demoustier-Champagne, S.	COLL	123
De Araujo, A.D.	MEDI	230	Dela Cruz Chu, J.	MEDI	15	Dempsey, J.L.	INOR	255
Deards, K.	CINF	98	Delacy, B.G.	PHYS	385	Dempsey, J.L.	INOR	335
Debayle, M.	COLL	526	De La Garza Becerra, L.	CATL	144	Dempsey, N.M.	ANYL	61
Debayle, M.	COLL	610	Delahaye, M.	POLY	50	Demuth, D.R.	MEDI	394
Debayle, M.	COLL	686	Delahunty, C.	CARB	73	De Mutsert, K.	ENVR	708
Debbarma, S.	ORGN	116	Delair, T.	COLL	339	Den, W.	ENVR	405

De Nalda, R.	PHYS	15	Derival, R.	CHED	122	Dhakal, B.	CARB	97
De Nalda, R.	PHYS	38	Dermenci, A.	MEDI	319	Dhakal, S.	BIOL	246
Denavit, V.	CARB	39	Derosa, C.A.	INOR	321	Dhanabalan, U.	CHAS	11
Denavit, V.	CARB	40	Derosa, C.A.	PMSE	626	Dhanasekaran, A.C.	ORGN	391
Denavit, V.	CARB	129	Derry, M.J.	PMSE	65	Dhande, Y.K.	POLY	485
Den Broeder, M.	ENVR	712	Derstine, B.P.	ORGN	176	Dhar, S.	INOR	190
Dendooven, J.	COLL	679	Derstine, C.	AGRO	133	Dhar, S.	INOR	471
Deneff, J.	INOR	245	Dervin, D.	CATL	118	Dhar, S.	MEDI	173
Deng, C.	INOR	264	Deryckere, D.	MEDI	303	Dharani, A.	INOR	187
Deng, D.	ENVR	306	Desaboini, N.	MEDI	233	Dharmarathne, N.U.	POLY	324
Deng, D.	ENVR	374	Desai, B.	ORGN	267	Dharmaratne, N.U.	POLY	337
Deng, D.	ENVR	737	Desamer, R.	CHED	162	Dharmawardhana, C.	COMP	39
Deng, D.	ENVR	738	Desamero, R.	CHED	163	Dhavalikar, P.	PMSE	69
Deng, D.	CINF	72	De Santi, A.	CELL	11	Dhavalikar, P.	POLY	67
Deng, D.	ENVR	756	De Santiago-Zárate, A.	ANYL	103	Dhawane, A.	CARB	26
Deng, G.	POLY	72	Desario, P.A.	ENFL	380	Dheer, L.	ENFL	499
Deng, H.	ENVR	210	Desautels, C.	AGRO	271	Dhinojwala, A.N.	PMSE	635
Deng, H.	ENVR	610	De Savi, C.	MEDI	19	Dho, Y.	CHED	277
Deng, J.	ORGN	263	Deschene, C.R.	COLL	198	Dhopeshwarkar, A.	MEDI	87
Deng, J.	MEDI	84	Deschene, C.R.	PHYS	479	Di, C.	PMSE	740
Deng, L.	PMSE	565	Deschenes, A.	MEDI	197	Di, W.	ANYL	322
Deng, L.	COLL	443	Deschepers, A.	POLY	449	Diab, M.N.	BIOL	293
Deng, L.	PMSE	546	Deshlahra, P.	CATL	231	Diallo, M.S.	ENVR	99
Deng, L.	MEDI	278	Deshler, N.	ANYL	469	Diamanti, P.	POLY	490
Deng, N.	COMP	489	Deshmukh, A.	ENVR	219	Dianat, G.	PMSE	279
Deng, S.	ENVR	46	Deshmukh, I.	COLL	179	Diao, T.	INOR	444
Deng, S.	AGFD	257	Deshmukh, R.	MEDI	427	Diao, T.	ORGN	107
Deng, T.	CATL	505	Deshmukh, R.	PHYS	277	Diao, T.	ORGN	230
Deng, T.	COLL	747	Deshong, P.R.	COLL	295	Diao, T.	ORGN	321
Deng, T.	PMSE	474	Deshpande, K.	COLL	442	Diao, W.	CATL	501
Deng, W.	AGFD	226	Deshpande, M.	MEDI	261	Dias, N.	PHYS	371
Deng, Y.	MEDI	282	Deshpande, N.	CATL	12	Diaz, J.	CELL	61
Deng, Y.	ENVR	19	Deshpande, N.	CATL	271	Diaz, M.	CHAS	48
Deng, Y.	ENVR	755	Deshpande, N.	CATL	511	Diaz, R.	CHED	260
Deng, Y.	CHED	80	Deshpande, N.	ENFL	413	Diaz, R.	MEDI	33
Deng, Y.	MEDI	24	De Silva, M.R.	AGRO	243	Diaz, R.	MEDI	34
Deng, Y.	MEDI	342	De Silva, P.	COMP	14	Diaz, R.	MEDI	36
Deng, Y.	COMP	487	De Silva, P.	COMP	536	Diaz, R.	MEDI	38
Deng, R.	ENFL	253	Desjardins, J.	ANYL	411	Diaz, R.	MEDI	335
Dengiz, C.	ENFL	246	Deskins, N.A.	CATL	29	Diaz, Y.	POLY	124
Den Hartog, I.	BIOL	127	Deslippe, J.	COMP	126	Diaz De Leon Derby, M.	CHED	205
Denizli, A.	BIOL	67	Deslongchamps, P.	ORGN	194	Díaz-Mula, H.	AGFD	53
Denizot, M.	BIOL	62	Deslongchamps, P.	ORGN	660	Díaz-Villaseñor, A.	ENVR	506
Dennis, A.M.	COLL	524	Desouky, M.	PHYS	298	Dibble, T.S.	ENVR	642
Dennis, A.M.	ENVR	291	De Souza, P.	PHYS	530	Dibble, T.S.	PHYS	355
Dennis, E.A.	COMP	143	Despagnet-Ayoub, E.	INOR	334	Diccianni, J.B.	INOR	444
Dennis, E.A.	COMP	571	Destarac, M.	POLY	310	Dichiaro, A.S.	BIOL	169
Dennis, E.A.	MEDI	248	Destino, J.F.	COLL	726	Dichtel, W.R.	ENVR	463
Dennis, G.P.	POLY	193	Detappe, P.	POLY	87	Dichtel, W.R.	PMSE	104
Denny, M.S.	POLY	552	Detavernier, C.	COLL	679	Dichtel, W.R.	PMSE	304
Denny, P.	BIOL	318	Detering, C.	COMP	294	Dichtel, W.R.	ENVR	432
Denny, P.	MEDI	39	Detering, C.	COMP	455	Dichtel, W.R.	ORGN	425
Denny, W.A.	MEDI	11	Deterling, J.	MEDI	445	Dichtel, W.R.	PMSE	1
Denny, W.A.	MEDI	207	De Toledo, I.	PMSE	46	Dichtel, W.R.	PMSE	166
Dent, W.H.	AGRO	172	De Toledo, I.	PMSE	442	Dichtel, W.R.	PMSE	608
Denton, D.	NUCL	8	Detty, M.	INOR	314	Dichtel, W.R.	POLY	199
Denton, D.	AGRO	16	Deuss, P.J.	CELL	11	Dickens, O.	CHED	44
Denton, E.	MEDI	423	Deutsch, C.	COMP	241	Dicker, K.T.	POLY	32
Denton, M.B.	ANYL	517	Deutsch, D.	MEDI	175	Dickey, M.D.	PMSE	296
Denz, C.	MEDI	70	Deutsch, D.J.	SCHB	9	Dickie, D.	INOR	447
Deo, M.D.	ENFL	79	Deutsch, P.P.	CINF	154	Dickinson, B.C.	BIOL	149
Deobald, J.	INOR	322	Devaraj, A.	CATL	361	Dickinson, W.	COLL	11
De Oliveira, C.	COMP	243	Devaux, F.	ANYL	74	Dickson, B.M.	MEDI	54
De Oliveira, R.M.	ANYL	516	Deveryshetty, J.	CHED	46	Dickson, R.	COLL	738
De Paepe, K.	AGFD	309	De Vette, H.	AGFD	45	Dicosimo, R.	AGFD	281
De Paula, M.	COLL	258	Devi, A.	INOR	161	Diddams, S.	PHYS	247
De Pauw, E.A.	ORGN	313	Devi, A.	INOR	627	Didier, J.	COLL	705
Depew, D.	CATL	521	Devine, W.G.	MEDI	310	Didier, M.	ANYL	5
Depierro, E.	CHED	52	Devita, R.J.	MEDI	333	Diederich, F.N.	CINF	88
Deponte, M.C.	CHED	40	Devita, R.J.	MEDI	359	Diederichsen, K.M.	PMSE	244
Deprey, K.	ORGN	163	Devivo, M.	COMP	49	Diedrich, J.K.	CARB	73
Deprey, K.	ORGN	299	Devivo, M.	COMP	75	Dieffenderfer, J.	ANYL	328
Deprey, S.	AGRO	343	Devkota, T.	PHYS	237	Diéguez, M.	ORGN	477
Deprince, A.E.	COMP	550	Devore, D.D.	ORGN	37	Diéguez, M.	ORGN	307
Deprince, A.E.	COMP	159	Devries, J.R.	CHED	115	Diehl, R.	CARB	48
Deprince, A.E.	COMP	170	Devries, A.	BIOL	247	Diehl, W.	MEDI	282
Deprince, A.E.	MPPG	99	De Vries, T.S.	ORGN	37	Dieng, K.	CHED	307
De Puig, H.	ANYL	64	Dewilde, J.	CHED	35	Diep, B.	CATL	511
De Puig, H.	COLL	565	De Winter, J.	INOR	64	Diep, N.	AGRO	108
Dera, P.	PHYS	553	De Winter, J.	INOR	112	Dieterich, J.M.	COMP	84
Derakhshandeh, M.	COLL	10	De Winter, J.	PMSE	520	Dietrich, L.	ENVR	423
Derakhshani Molayousefi, M.	ENFL	159	De Wit, M.	ORGN	8	Dietz, M.	AGFD	272
Deravi, L.	ANYL	222	De Wit, M.	ORGN	635	Dieu, V.	BIOL	194
Deravi, L.	ANYL	225	Dewitt, S.H.	MEDI	317	Diez, M.	PHYS	109
Deravi, L.	ANYL	273	Dey, G.	COMP	334	Di Fazio, A.	POLY	68
Deravi, L.	ANYL	480	Dey, G.	INOR	522	Digby, Z.	PMSE	25
Deravi, L.	CHED	340	Dey, S.	POLY	435	Digby, Z.	PMSE	215
Deravi, L.	PMSE	317	Deyoreo, J.J.	COLL	672	Digby, Z.	POLY	158
Deravi, L.	PMSE	473	De Yoreo, J.J.	COLL	87	Diharce, J.	COMP	433
Derbyshire, E.	BIOL	156	De Yoreo, J.J.	GEOC	20	Dikarev, E.V.	INOR	554
Derewacz, K.	AGRO	189	De Yoreo, J.J.	GEOC	45	Dikici, S.	PMSE	582
Deria, P.	INOR	553	De Yoreo, J.J.	GEOC	63	Dikici, S.	PMSE	583
Derival, R.	CHED	14	Dhainy, J.	INOR	173	Dikshit, P.	PMSE	718

Diky, V.	CINF	65	Discher, B.M.	CHED	259	Doktycz, M.	BIOL	53
Dilbeck, T.	INOR	476	Discua, A.	AGFD	121	Dokukin, M.	COLL	787
Dilip, M.	CHED	209	Dishman, S.N.	MEDI	292	Dolan, E.	BIOL	286
Dilip, M.	CHED	232	Dismukes, G.C.	ENFL	18	Dolgova, N.	TOXI	29
Dilip, M.	CHED	234	Dismukes, G.C.	INOR	560	Dolinski, N.	POLY	124
Dilip, M.	CHED	410	Disotuar, M.	WCC	8	Dolocan, A.	MPPG	40
Dilip, M.	CHED	427	Dissanayaka, R.	PHYS	514	Dolog, R.	ENFL	307
Dilip, M.	CHED	428	Dissanayake, D.	INOR	170	Domaille, D.	PMSE	171
Dill, C.	COLL	755	Dissanayake, S.L.	INOR	33	Domaille, D.	PMSE	455
Dilla, R.	ANYL	472	Distasio, R.A.	COMP	173	Domaille, D.	POLY	79
Dillon, R.J.	MPPG	15	Distasio, R.A.	COMP	440	Dombrowski, E.	PHYS	453
Di Lorenzo, R.	AGRO	111	Distasio, R.A.	COMP	548	Dombrowski, E.	PHYS	501
Dimakis, N.	ANYL	302	Distasio, R.A.	PMSE	638	Dombrowski, J.P.	INOR	535
Diman, A.	INOR	64	Distefano, M.D.	ORGN	197	Domcke, W.	PHYS	334
Dimartino, J.	AGRO	224	Distel, D.L.	COMP	375	Domena, J.B.	CHED	402
Dimarzio, N.	COLL	436	Dittmar, J.W.	CHED	218	Domin, M.	INOR	234
Dimauro, L.	PHYS	88	Dittmar, J.W.	CHED	219	Domin, M.	INOR	421
Dimauro, L.	PHYS	261	Dittrich, T.	CATL	285	Domine, M.E.	CATL	488
Di Michiel, M.	CATL	68	Dittrich, T.M.	ENVR	105	Dominey, R.N.	ORGN	411
Dimitriadis, E.K.	BIOL	34	Dittrich, T.M.	NUCL	46	Domingos, R.	PHYS	550
Dinadayalane, T.	COMP	354	Dittwald, P.	CINF	39	Dominguez, A.	PHYS	102
Dinadayalane, T.	COMP	359	Dittwald, P.	CINF	145	Dominguez, A.A.	POLY	346
Dinadayalane, T.	COMP	394	Divovic, B.	MEDI	95	Dominguez-Martín, M.A.	PHYS	511
Dinadayalane, T.	COMP	471	Dixit, S.	ENVR	319	Dominguez-Ontiveros, E.E.	I&E	8
Dinadayalane, T.	PROF	34	Dixon, D.D.	AGRO	246	Dominique, N.L.	INOR	644
Di Nardo, T.	ORGN	217	Dixon, D.	MEDI	266	Domyati, D.	INOR	351
Dinca, M.	INOR	68	Dixon, D.	ORGN	203	Domzalski, A.C.	BIOL	220
Dinca, M.	INOR	653	Dixon, S.	COMP	450	Dona, F.	POLY	486
Dinca, M.	INOR	654	Dizge, N.	ENVR	461	Donahue, J.F.	CINF	164
Dinca, M.	INOR	655	Djioleu, A.	CELL	19	Donais, M.K.	CHED	159
Dinca, S.	POLY	571	Djokic, M.	ENFL	423	Donais, M.K.	CHED	160
Dincă, M.	ENFL	164	Djoubou Feunang, Y.	CINF	133	Donakowski, M.D.	ENFL	348
Dinescu, A.	COMP	391	Dmitriev, A.	COMP	348	Donaldson, F.	AGRO	51
Ding, E.	PMSE	441	Dmitriev, A.	MEDI	401	Donati, D.	MEDI	362
Ding, F.	ANYL	4	Dmitriev, O.	TOXI	29	Donati, D.	MEDI	365
Ding, H.	ENVR	610	Do, C.H.	HIST	2	Donazzi, A.	CATL	466
Ding, I.	COLL	718	Do, J.	INOR	249	Donders, E.	COLL	779
Ding, J.	COLL	159	Do, L.	ORGN	211	Dones-Monroig, J.M.	BIOL	222
Ding, M.	ANYL	112	Do, L.	ORGN	434	Dong, A.	MPPG	17
Ding, M.	ANYL	132	Do, L.	ORGN	436	Dong, B.	PMSE	579
Ding, R.	COLL	499	Do, M.	INOR	670	Dong, B.	ANYL	70
Ding, R.	POLY	125	Do, P.N.	INOR	754	Dong, B.	CATL	299
Ding, S.	MEDI	372	Do, T.	ENVR	182	Dong, B.	ENVR	563
Ding, S.	INOR	374	Doan, J.H.	ANYL	302	Dong, B.	INOR	201
Ding, S.	MEDI	80	Doan, J.H.	CATL	470	Dong, C.	ENVR	404
Ding, X.	ORGN	684	Doan-Nguyen, V.V.	ENFL	332	Dong, C.	ENVR	811
Ding, Y.	ENVR	416	Dobbs, D.	INOR	671	Dong, F.	CATL	286
Ding, Y.	MEDI	62	Dobbs, M.	AGRO	20	Dong, F.	COLL	746
Ding, Y.	AGRO	112	Dobbs, M.	AGRO	24	Dong, F.	ENVR	723
Ding, Y.	AGRO	122	Dobereiner, G.	INOR	22	Dong, H.	COLL	412
Ding, Y.	INOR	722	Dobereiner, G.	INOR	588	Dong, H.	ENVR	615
Ding, Z.	CELL	20	Dobereiner, G.	INOR	614	Dong, H.	ENFL	44
Ding, Z.	ANYL	342	Doberstein, S.K.	MEDI	274	Dong, J.	CATL	412
Dingman, D.	I&E	48	Doble, S.	PHYS	449	Dong, J.	COLL	36
Dingreville, R.	PRES	30	Doblin, M.	COMP	254	Dong, J.	COLL	608
Dinh, C.	ENFL	504	Dobrzanski, P.	MEDI	358	Dong, J.	COLL	668
Dinh, H.	CARB	26	Dobscha, J.	COLL	333	Dong, J.	PMSE	257
Dinh, L.	INOR	614	Dobson, D.	MEDI	204	Dong, M.	PMSE	751
Dinkova-Kostova, A.	TOXI	7	Dockrey, S.B.	BIOL	280	Dong, M.	POLY	190
Dinnebier, R.	ENFL	152	Dockrey, S.B.	ORGN	381	Dong, Q.	ANYL	249
Dinnebier, R.	INOR	249	Dockrey, S.B.	ORGN	383	Dong, Q.	INOR	97
Dinner, A.	COMP	218	Dodard, S.	COLL	214	Dong, R.	POLY	385
Di Noto, V.	ENFL	316	Dodd, T.W.	COMP	415	Dong, S.	ENVR	746
Dinyaryan, K.	COLL	329	Dodd, T.W.	COMP	431	Dong, S.	ORGN	160
Dionisio, K.	AGRO	28	Dodelet, J.	ENFL	128	Dong, S.	ENVR	266
Dionne, J.	COLL	382	Dodge, A.G.	BIOL	314	Dong, S.	COLL	539
Dionne, J.	MPPG	102	Dodge, H.M.	INOR	401	Dong, S.	COMP	87
Dionne, J.	PHYS	239	Dodin, A.	COMP	340	Dong, S.	CATL	401
Dionne, J.A.	COLL	384	Dodin, A.	COMP	511	Dong, T.	ENFL	479
Dionne, J.A.	COLL	659	Dodson, T.A.	TOXI	65	Dong, W.	PMSE	731
Dionne, J.A.	COLL	690	Dodson, T.A.	TOXI	67	Dong, X.	INOR	87
Dionne, J.A.	COLL	741	Doeff, M.	PHYS	115	Dong, X.	INOR	455
Dionysiou, D.D.	COMP	559	Doemling, A.	BIOL	146	Dong, X.	COLL	525
Dionysiou, D.D.	ENVR	205	Doemling, A.	ORGN	200	Dong, X.	COLL	259
Dionysiou, D.D.	ENVR	347	Doepner, A.	MEDI	361	Dong, X.	COLL	414
Dionysiou, D.D.	ENVR	480	Doerig, P.	COLL	116	Dong, X.	ENVR	644
Dionysiou, D.D.	ENVR	578	Doerig, P.	MPPG	109	Dong, X.	PMSE	624
Dionysiou, D.D.	ENVR	701	Doerr, L.H.	ENVR	529	Dong, Y.	ENFL	284
Dionysiou, D.	ENVR	209	Doerr, L.H.	INOR	38	Dong, Y.	CATL	279
Dionysiou, D.	ENVR	280	Doerr, L.H.	INOR	234	Dong, Z.	PMSE	258
Dionysiou, D.	ENVR	390	Doerr, L.H.	INOR	421	Donhue, S.	MEDI	102
Di Palma, G.	COLL	347	Doerr, L.H.	INOR	485	Donlic, A.	BIOL	124
Di Pietro, S.A.	I&E	34	Doerr, L.H.	INOR	516	Donnat, N.	POLY	155
Dirany, A.	ENVR	574	Doert, T.	INOR	14	Donninelli, A.	PMSE	614
Dirinck, E.	ENVR	504	Dogan, F.	ANYL	247	Donnio, B.	COLL	217
Dirinck, E.	ENVR	714	Dogan, O.	ORGN	355	Donnio, B.	COLL	674
Dirisio, R.J.	PHYS	119	Doherty, C.T.	ORGN	677	Donovan-Merkert, B.T.	INOR	7
Dirtu, A.	ENVR	714	Doherty, L.A.	AGFD	76	Döntgen, M.	PHYS	230
Disalvo, F.J.	PMSE	585	Doherty, L.A.	AGFD	77	Donthula, K.	ORGN	314
Disalvo, J.	MEDI	311	Doherty, L.A.	AGFD	277	Donthula, S.	INOR	745
Di Sanza, R.	ORGN	113	Doherty, L.A.	AGFD	311	Donthula, S.	INOR	746
Discenza, D.J.	CHED	53	Doherty, M.	AGRO	9	Donthula, S.	INOR	748
Discenza, D.J.	ENVR	595	Doi, M.	ORGN	151	Donthula, S.	PMSE	679

Dontsova, K.	ENVR	469	Dransfield, T.J.	CHED	87	Duan, M.	ANYL	112
Doong, R.	ANYL	200	Dransfield, P.J.	MEDI	322	Duan, P.	ENVR	25
Doong, R.	ENFL	533	Dreaden, E.C.	COLL	466	Duan, W.	ENVR	672
Doong, R.	ENVR	401	Dreaden, E.C.	COLL	568	Duan, X.	COLL	120
Doong, R.	ENVR	616	Dreher, S.	YCC	9	Duan, X.	ENVR	205
Doong, R.	ENVR	807	Dreier, T.A.	INOR	577	Duan, X.	ENVR	347
Doong, R.	MPPG	30	Drenckhan, W.	PMSE	673	Duan, X.	COLL	799
Dopke, J.A.	INOR	152	Drenichev, M.	MEDI	238	Duan, Y.	COMP	322
Dörfler, U.	ENVR	426	Drennan, C.L.	BIOL	142	Duan, Y.	COMP	572
Dorfman, A.	COLL	455	Drennan, C.L.	BIOL	289	Duan, Y.	PHYS	393
Dorfman, A.	COLL	456	Drennan, C.L.	INOR	392	Duan, Y.	PHYS	496
Dorfman, K.	PHYS	274	Drennan, C.L.	INOR	394	Duan, Z.	ENVR	719
Dorfman, S.	PHYS	303	Dressick, W.J.	PHYS	397	Duanghathaipornsuk, S.	I&EC	58
Dorhout, J.	NUCL	22	Drew, K.	COMP	62	Duanmu, K.	CATL	458
Dori, Y.J.	CHED	419	Drew, L.	MEDI	19	Duarte, J.	ENVR	578
Dori, Y.	CHED	95	Drewett, N.E.	ENFL	463	Duay, J.	PMSE	34
Dori, Y.	CHED	417	Drewry, D.H.	MEDI	187	Duay, S.S.	COMP	255
Dorland, E.M.	WCC	23	Dreyer, A.	CARB	99	Duay, S.S.	MEDI	91
Dorlus, T.	COMP	359	Driscoll, D.M.	INOR	372	Duberman, J.	CHAL	24
Dorman, J.A.	INOR	51	Driscoll, D.M.	INOR	660	Dubin, G.	BIOL	146
Dorman, J.A.	INOR	630	Driscoll, J.N.	ANYL	148	Dubin, O.	PMSE	416
Dorney, K.M.	PHYS	197	Driscoll, J.N.	ANYL	467	Dubois, P.	PMSE	618
Dorosheva, O.	BIOL	206	Driscoll, J.N.	ENVR	120	Dubowchik, G.M.	MEDI	364
Dorval Courchesne, N.	BIOL	127	Driscoll, J.N.	SCHB	18	Dubrovinskaia, N.	PHYS	395
Doscher, B.	CHED	307	Driscoll, J.N.	SCHB	23	Dubrovinsky, L.	PHYS	395
Doshi, A.B.	MEDI	98	Drisdell, W.	CATL	261	Ducati, G.	PMSE	654
Dos Santos, J.L.	MEDI	118	Driver, E.M.	ENVR	516	Ducharme, Y.	MEDI	342
Dossetter, A.	COMP	111	Driver, E.M.	ENVR	784	Duchon, T.	CATL	67
Dossetter, A.	MEDI	17	Driver, J.H.	AGRO	30	Duckworth, S.	NUCL	68
Dotsenko, V.	MEDI	238	Drockenmuller, E.	POLY	108	Dudak, F.	INOR	601
Doty, A.	MEDI	24	Drockenmuller, E.	POLY	246	Duddupudi, A.	ORGN	67
Dou, J.	INOR	371	Droege, T.	AGRO	208	Dudley, D.M.	MEDI	122
Dou, M.	ENFL	256	Drogui, P.	ENVR	574	Dudley, G.B.	ORGN	462
Dou, M.	ENFL	257	Drori, R.	BIOL	247	Dudney, N.J.	PHYS	167
Dou, M.	ENFL	263	Drouin, B.	PHYS	590	Dudnik, A.	POLY	340
Doubleday, C.	ORGN	454	Drown, B.	CINF	158	Dudukovic, N.	COLL	726
Doucette, G.	PHYS	578	Drukker, D.	ORGN	173	Duenas Diez, M.	POLY	302
Doudna, J.	BIOL	135	Drum, T.	ENVR	785	Duff, A.	COMP	46
Doudna, J.	ENVR	199	Drummey, K.	POLY	226	Duffy, B.	ORGN	657
Doudrick, K.	ENVR	408	Drummond, D.C.	COLL	19	Duffy, E.	CHED	148
Doudrick, K.	ENVR	798	Drummond, M.J.	INOR	607	Duffy, L.	PHYS	134
Doughty, B.	COLL	664	Drummy, L.F.	POLY	401	Duflot, D.	PHYS	542
Douglas, A.	MEDI	56	Druzhilovskiy, D.	CINF	160	Dufour, D.	PMSE	518
Douglas, C.J.	PHYS	449	Druzhilovskiy, D.	COMP	151	Dufresne, A.	CELL	23
Douglas, J.F.	PMSE	197	Druzhilovskiy, D.	COMP	348	Dugan, N.	CATL	518
Douglas, T.	COLL	569	Druzhilovskiy, D.	MEDI	452	Dugan, P.J.	ENVR	309
Douhal, A.	PHYS	41	Dsouza, M.	MEDI	60	Dugdale, H.	MEDI	289
Doumampouom Metoul, L.	MEDI	101	Du, B.	COLL	56	Duggan, T.	AGFD	106
Doumy, G.	PHYS	217	Du, B.	COLL	59	Dugger, J.	POLY	292
Dove, A.P.	PMSE	56	Du, B.	COLL	392	Duhamel, A.	POLY	155
Dove, A.P.	PMSE	59	Du, B.	INOR	583	Duhamel, J.	POLY	144
Dove, A.P.	PMSE	123	Du, D.X.	PHYS	203	Duhl, T.R.	GEOC	19
Dove, A.P.	PMSE	129	Du, F.	PMSE	462	Dukart, A.	CHED	214
Dove, A.P.	PMSE	341	Du, F.	POLY	322	Duke, S.O.	AGRO	143
Dove, A.P.	PMSE	419	Du, J.	COLL	378	Duke, S.O.	AGRO	99
Dove, A.P.	PMSE	420	Du, L.	COLL	709	Duke, S.O.	AGRO	144
Dove, A.P.	PMSE	520	Du, L.	AGRO	84	Duke, S.O.	AGRO	146
Dove, A.P.	PMSE	672	Du, L.	BIOL	274	Dukhande, V.	MEDI	182
Dove, A.P.	POLY	118	Du, L.	ENFL	264	Dumartin, M.	ORGN	678
Dove, A.P.	POLY	272	Du, L.	INOR	56	Dumas, L.	PMSE	618
Dover, C.B.	PHYS	518	Du, L.	INOR	722	Dumas, M.T.	INOR	425
Dowd, C.S.	MEDI	103	Du, M.	PHYS	276	Dumas, T.	NUCL	54
Dowd, C.S.	MEDI	117	Du, P.	INOR	379	Dumitrescu, E.	AGFD	174
Dowell, T.J.	ANYL	434	Du, S.	MPPG	19	Dumont, J.	PMSE	551
Dowgiallo, M.	ORGN	643	Du, W.	PHYS	9	Dumoulin, A.	WCC	4
Dowling, D.P.	BIOL	194	Du, W.	PHYS	11	Dunagin, M.	BIOL	164
Downes, S.	ENVR	253	Du, W.	PHYS	336	Dunas, P.	ENVR	318
Downey, C.W.	ORGN	183	Du, X.	MEDI	21	Dunbar, K.R.	INOR	316
Downey, P.M.	AGRO	117	Du, Y.	ORGN	74	Dunbar, K.R.	INOR	513
Downey, P.M.	AGRO	232	Du, Y.	ANYL	67	Duncan, M.	INOR	581
Downing, K.H.	PMSE	135	Du, Y.	ENVR	462	Duncan, M.A.	PHYS	250
Downton, M.	COMP	254	Du, Y.	INOR	76	Duncan, T.V.	ENVR	289
Dowty, M.	MEDI	319	Du, Y.	COLL	703	Duncan, T.V.	ENVR	357
Doyle, P.S.	ANYL	203	Du, Y.	MEDI	200	Dundas, C.	POLY	530
Doyle, P.S.	ANYL	205	Du, Y.	POLY	125	Duneau, D.	AGRO	150
Doyle, S.J.	PHYS	7	Du, Z.	PHYS	137	Dunemann, F.	AGRO	110
Doyon, T.	ORGN	252	Du, Z.	ENFL	403	Dungan, O.	ORGN	657
Doyon, T.	ORGN	383	Du, Z.	CATL	375	Dunham, I.	CINF	118
Dozortsev, V.	ENVR	118	Du, Z.	ENVR	632	Dunietz, B.D.	COMP	122
Draganov, D.	POLY	15	Du, Z.	ENVR	691	Dunietz, B.D.	COMP	289
Draghici, C.	CARB	84	Duan, A.	ENFL	456	Dunkel, A.	AGFD	272
Dragovich, P.S.	MEDI	15	Duan, C.	COMP	338	Dunkel, A.	AGFD	273
Dragowska, W.H.	COLL	692	Duan, C.	COMP	347	Dunkel, A.	AGRO	110
Drain, C.M.	CHED	74	Duan, C.	COMP	495	Dunkelberger, A.D.	PHYS	381
Drain, C.M.	MEDI	419	Duan, C.	INOR	119	Dunkelberger, A.D.	PHYS	397
Drain, C.M.	MEDI	420	Duan, C.	INOR	121	Dunn, A.L.	ORGN	265
Drake, K.B.	SCHB	8	Duan, H.	BIOL	262	Dunn, B.	PHYS	164
Drake, L.	MEDI	381	Duan, H.	AGRO	371	Dunn, M.	PMSE	94
Drake, L.	MEDI	382	Duan, H.	CATL	220	Dunne, A.D.	ENFL	268
Drake, M.	AGFD	124	Duan, J.	MEDI	55	Dunne, J.	AGRO	79
Drake, R.R.	ENFL	539	Duan, L.	AGRO	163	Dunne, J.	AGRO	236
Dranoff, G.	POLY	15	Duan, L.	AGRO	166	Dunne, J.	AGRO	317
Dranow, D.	MEDI	302	Duan, L.	AGRO	312	Dunning, S.G.	INOR	194

Dunning, T.H.	COMP	549	Echegoyen, L.	ORGN	536	Eisenberg, R.	INOR	380
Duong, A.D.	AGRO	244	Ecija, D.	COLL	320	Ejeromedaghene, O.	MPPG	14
Dupas, B.	CELL	57	Ecija, D.	COLL	495	Ejiri, A.	ENVR	733
Dupont, J.	CATL	128	Eckel, W.P.	AGRO	22	Ejnik, J.W.	AGFD	265
Dupre, K.	ENVR	559	Ecker, G.F.	COMP	155	Ejnik, J.W.	BIOL	186
Dupree, L.	CHED	166	Ecker, G.F.	MEDI	137	Ekanayake, N.	PHYS	318
Du Prez, F.E.	POLY	29	Ecker, G.F.	TOXI	61	Ekanayake, N.	PHYS	440
Du Prez, F.E.	POLY	50	Ecker, G.F.	TOXI	105	Ekenseair, A.	PMSE	148
Du Prez, F.E.	POLY	110	Eckert, S.	PHYS	108	Ekési, S.	AGRO	213
Du Prez, F.E.	POLY	114	Eckhart, K.	PMSE	77	Ekimova, M.	PHYS	14
Dupuis, M.	COMP	445	Eckmair, B.	CARB	37	Ekimova, M.	PHYS	324
Dura, J.	ANYL	248	Economou, C.	ORGN	671	Ekíns, S.	CINF	24
Duran, A.	INOR	681	Eddy, N.	ORGN	617	Ekíns, S.	COMP	529
Durand, C.	CHED	392	Ede, B.	POLY	490	Ekíns, S.	MEDI	32
Durand-Reville, T.	COMP	570	Edelbach, B.L.	CHED	397	Ekíns, S.	MEDI	114
Durbin, M.M.	POLY	193	Eden, A.	ANYL	43	Ekíns, S.	MEDI	231
Durek, T.	MEDI	230	Eden, B.	CHED	268	Ekíns, S.	MEDI	268
Durke, E.M.	POLY	554	Eden, B.	ORGN	295	Ekíns, S.	SCHB	11
Durkin, D.P.	ENVR	213	Edens, L.	COMP	32	Ekíns, S.	TOXI	86
Duro, L.	NUCL	26	Ederer, M.M.	CHED	412	Ekkladious, I.	COLL	299
Durr, C.	PMSE	60	Edgar, K.J.	CELL	30	Ekkladious, I.	COLL	778
Duru, I.	COMP	534	Edgar, K.J.	COLL	230	Ekkladious, I.	POLY	430
Dusharm, G.	CHED	400	Edington, S.C.	INOR	362	Eksterowicz, J.	MEDI	21
Dutour, R.	MEDI	375	Edington, S.C.	INOR	613	Elabd, Y.A.	POLY	195
Dutt, M.	BIOL	286	Edlund, U.	CELL	27	Elacqua, E.	PMSE	26
Dutt, M.	COMP	41	Edman, K.	ORGN	207	Elacqua, E.	PMSE	27
Dutt, M.	COMP	376	Edmiston, P.	ENFL	116	Elacqua, E.	POLY	37
Dutt, M.	COMP	426	Edmunds, J.	MEDI	8	Eladgham, E.	COLL	681
Dutt, R.	BIOL	109	Edouarzin, E.	INOR	632	Eladgham, E.	INOR	472
Dutta, C.	ANYL	120	Edstrom, K.	PHYS	62	Eladgham, E.H.	INOR	585
Dutta, C.	ANYL	220	Eduards, B.	POLY	431	Elaigwu, S.	ENVR	231
Dutta, J.	CATL	56	Edwards, B.	MEDI	289	El Asmar, R.	ANYL	182
Dutta, K.	PMSE	815	Edwards, C.	PMSE	452	El Awad Azrak, S.M.	PMSE	681
Dutta, P.	CARB	9	Edwards, J.	CINF	32	Elayan, A.S.	POLY	374
Dutta, S.	CATL	502	Edwards, J.	ENVR	164	Elbatrawi, Y.M.	ORGN	150
Dutta, S.	ENFL	462	Edwards, J.	ENVR	314	Elbatrawi, Y.M.	ORGN	159
Dutta, S.	COLL	76	Edwards, J.	CATL	482	Elbert, K.C.	ENFL	332
Dutta, S.	BIOL	108	Edwards, K.	PMSE	234	Elbert, K.C.	INOR	330
Dutta, S.	CARB	12	Edwards, K.	PMSE	496	Elbert, K.C.	INOR	417
Dutta, S.	CARB	27	Edwards, K.	PMSE	553	Elbert, K.C.	INOR	719
Dutta, T.	ENVR	803	Edwards, M.	ENVR	149	Elboher, S.	PHYS	52
Dutta, T.	INOR	373	Edwards, M.	ANYL	479	Eldabagh, N.	PHYS	360
Dutton, J.	AGRO	379	Edwards, M.	ENVR	768	Elder, A.	TOXI	21
Duvall, C.	COLL	386	Edwards, M.P.	MEDI	282	Elder, T.J.	CELL	1
Duwez, A.	ANYL	74	Edwards, P.P.	PHYS	363	Eldridge, G.	ORGN	649
Duzan, A.	MEDI	433	Edwards, P.P.	PHYS	365	Elen, K.	CATL	31
Duzan, A.	MEDI	434	Edwards, R.	MEDI	103	Eletskaia, A.	MEDI	238
Duzan, A.	ORGN	250	Edwards, R.	AGRO	71	El-Faham, A.	ENVR	664
Duzen, N.	PMSE	647	Edwards, S.	PMSE	749	El Fakhri, G.	MPPG	69
Duzy, L.	AGRO	26	Edwards, S.	POLY	230	Elfarra, S.	ORGN	641
Dwivedi, U.	ENVR	387	Edwards, S.J.	ANYL	517	Elfwing, A.	PMSE	238
Dworak, J.	ORGN	648	Effiong, D.G.	ORGN	657	El-Gamal, M.I.	MEDI	90
Dwulet, G.E.	PMSE	5	Efthimiopoulos, G.	TOXI	4	Elgawady, M.	ENVR	540
Dwyer, A.	PMSE	749	Egap, E.	PMSE	13	Elgendy, A.S.	CHED	346
Dwyer, A.	POLY	306	Egbert, J.	CATL	166	El-Hadri, H.	POLY	173
Dwyer, A.	POLY	312	Egbert, M.	COMP	438	El Hassan, N.	CATL	380
Dwyer, J.R.	ANYL	409	Egbert, R.	ENVR	275	Elias, B.	INOR	64
Dwyer, P.	MEDI	410	Eger, E.	CATL	159	Elias, B.	INOR	112
Dyer, C.	INOR	415	Eggert, U.S.	POLY	486	Elias, B.	ENVR	749
Dyer, D.G.	AGRO	88	Egle, T.	CATL	176	Elias, J.S.	ENFL	250
Dyer, D.G.	AGRO	364	Egolf, R.A.	HIST	9	Elias, J.S.	INOR	101
Dyer, M.W.	ORGN	525	Eguchi, H.	POLY	457	Elias, Q.K.	COLL	558
Dylla-Spears, R.	COLL	726	Ehle, A.R.	CHAL	4	Elimelech, M.	ENVR	159
Dzedulionyte, K.	ORGN	586	Ehlers, A.	COMP	290	Elimelech, M.	ENVR	216
Dziedziatkowska, M.	BIOL	38	Ehlers, A.	ORGN	243	Elimelech, M.	ENVR	219
Dzierba, C.D.	MEDI	50	Ehmki, E.S.	COMP	245	Elimelech, M.	ENVR	461
Dzierba, C.D.	MEDI	51	Ehmki, E.S.	COMP	454	Elimelech, M.	ENVR	535
Dzombak, D.A.	ENVR	799	Ehrhart, J.	MEDI	311	Elinburg, J.K.	INOR	38
Dzugan, L.	PHYS	119	Ehrlich, A.	CHAL	27	Elinburg, J.K.	INOR	485
D'Amato, E.	NUCL	51	Ehrlich, D.	PMSE	84	Elinski, M.B.	ANYL	373
D'Erasmo, M.	AGRO	87	Ehrlich, D.	POLY	34	Elisée, E.	COMP	569
Eadeh, N.	COMP	342	Ehrlich, G.D.	MEDI	447	Eliyapura, A.	COLL	216
Eakins, G.	ANYL	39	Ehrmann, P.	COLL	726	Elizondo, M.	CHED	213
Earl, E.	ENFL	112	Eibel, A.	PMSE	704	Elizondo, R.	ORGN	637
Earl, L.	I&E	33	Eiblmaier, J.	CINF	68	El-Kaderi, H.M.	ENFL	220
Earlywine, E.B.	INOR	533	Eichholz, T.	ENVR	234	Elkahoui, S.	AGFD	301
Earp, D.J.	MEDI	151	Eichinger, W.E.	AGRO	232	Elkin, M.	WCC	1
Earp, H.	MEDI	303	Eichmann, S.L.	ENFL	312	Elkin, T.	POLY	187
East, M.P.	MEDI	187	Eiermann, G.	MEDI	311	Elkins, J.M.	MEDI	160
Easter, Q.	INOR	91	Eigenbrodt, B.C.	ENFL	449	Elkins, K.M.	CINF	60
Easterling, C.P.	PMSE	293	Eigner Pitto, V.	CINF	148	Eli, J.	ENVR	835
Easterling, C.P.	POLY	115	Eijkel, J.C.	ANYL	43	Ellacott, S.H.	POLY	182
Eastman, S.A.	POLY	164	Eikel, D.	BIOL	28	Eller, M.J.	PMSE	332
Eastoe, J.	COLL	587	Eikenberg, J.H.	POLY	257	Ellern, A.	CHED	250
Easton, A.	MEDI	50	Eiler, D.	ORGN	258	Ellingboe, J.W.	MEDI	65
Eaton, T.	CATL	405	Eilks, I.	CHED	372	Ellington, A.D.	BIOL	96
Ebeid, J.	CARB	70	Einkauf, J.	PMSE	446	Ellinwood, D.C.	ORGN	285
Eberhart, M.	PHYS	242	Einzinger, M.	PHYS	333	Elliott, J.A.	COLL	553
Ebert, B.	BIOL	148	Eisele, D.	PHYS	128	Elliott, J.A.	ENVR	769
Eberwome, J.	MPPG	91	Eisele, D.	PHYS	3	Elliott, S.J.	PHYS	484
Ebina, Y.	POLY	375	Eisenberg, R.	INOR	314	Elliott, S.	INOR	132
Ebner, S.	PHYS	217	Eisenberg, R.	INOR	317	Elliott, S.	CATL	84
Ebrahim, A.	INOR	372	Eisenberg, R.	INOR	336	Elliott, W.	CATL	103

Elliott, W.	CATL	272	Epps, T.H.	POLY	556	Evans, A.M.	PMSE	166
Ellis, E.	PMSE	111	Eradi, P.	CARB	118	Evans, B.R.	CELL	10
Ellis, L.	MEDI	206	Eramo, A.	ENVR	262	Evans, C.	POLY	53
Ellis, M.J.	PHYS	314	Erb, P.	POLY	65	Evans, C.	POLY	543
Ellis, M.C.	INOR	756	Erdmann, T.	PMSE	398	Evans, H.	COMP	342
Ellison, C.J.	PMSE	642	Erel-Goktepe, I.	PMSE	594	Evans, H.	MEDI	145
Ellison, E.	CHED	135	Eren, Z.	ENVR	577	Evans, I.	MEDI	204
Ellison, M.D.	CHED	282	Ereshesfsky, L.	MEDI	330	Evans, J.E.	COLL	2
Ellison, M.D.	GEOC	10	Erfani, A.	COLL	417	Evans, J.	CHED	87
Ellman, J.A.	ORGN	117	Erfani, A.	COLL	666	Evans, J.C.	MEDI	117
El Marrouni, A.	ORGN	174	Ergene, C.	PMSE	79	Evans, K.A.	MEDI	25
Elmes, M.	MEDI	175	Erhan, S.Z.	AGFD	241	Evans, K.R.	CHED	167
El-Moghazy, A.	ANYL	95	Erhan, S.Z.	AGFD	244	Evans, M.	CHED	135
Elpitiya, G.	INOR	596	Eric, V.	MEDI	101	Evans, P.	ENVR	309
Elrod, L.T.	INOR	611	Erickson, J.A.	MEDI	330	Evans, P.	AGRO	373
Elrod, L.T.	INOR	774	Erickson, S.	BIOL	153	Evans, W.J.	INOR	425
Elsabahy, M.	PMSE	751	Erikson, V.	AGRO	378	Evans, W.J.	INOR	429
Elsaesser, T.	PHYS	324	Eristoff, S.	PMSE	505	Evansack, J.D.	COMP	368
Elsafi, A.	ENVR	836	Erlanson, D.A.	MEDI	252	Even, J.	INOR	441
Elsaidi, S.K.	ENFL	494	Ermanis, K.	COMP	506	Evenson, M.D.	AGRO	220
Elsaker, S.	ENVR	243	Ermanis, K.	ORGN	438	Everitt, H.	CATL	28
El-Samak, A.A.	CHED	346	Ernst, M.	MEDI	95	Evidente, A.	AGRO	140
El-Sayed, M.A.	COLL	529	Ernst, R.K.	ENFL	534	Evrard, E.	ORGN	4
Elsberg, J.G.	INOR	708	Erokwu, B.O.	COLL	261	Ewald, J.	CHED	177
Elsej, J.	ENVR	665	Ersoz, N.	INOR	601	Ewers, T.	COLL	442
Elshahawi, S.	BIOL	89	Ertem, M.	CATL	130	Ewert, K.	COLL	469
Elston, H.J.	CHAS	3	Ervin, C.	TOXI	26	Ewing, R.C.	GEOC	54
Elton, A.C.	BIOL	277	Ervithayasuporn, V.	INOR	534	Ewing, R.C.	NUCL	41
Elupula, R.	PMSE	393	Ervithayasuporn, V.	INOR	700	Ewul, E.L.	BIOL	38
Elvati, P.	PMSE	283	Erwin, A.J.	POLY	294	Exman, I.	PHYS	130
Elvira, K.	BIOL	163	Erwin, A.J.	POLY	537	Eyet, N.	CHED	348
Elward, J.M.	COMP	249	Escalante, J.	ORGN	209	Eyet, N.	PHYS	455
Elward, J.M.	COMP	537	Escaldas Bordoy, A.	BIOL	279	Eytel, L.M.	ANYL	77
Elyajouri, M.	PHYS	195	Escarsega, J.A.	POLY	255	Ezazi, M.	PMSE	388
El-Zaatar, B.	PMSE	52	Esch, M.P.	COMP	164	Ezenwa, S.	CATL	231
Elzein, R.	I&E	33	Esch, M.P.	COMP	563	Ezra, L.	ANYL	512
Elzoeiry, Z.	ENVR	757	Escher, S.	TOXI	61	Ezra, L.	ANYL	523
El-Zoghbi, I.	CATL	302	Eskilsen, D.	COMP	342	F.Y., I.	AGFD	60
Emal, C.D.	CHED	265	Escobedo, F.	PMSE	579	Faccenda, E.	CINF	67
Embong, K.	MEDI	204	Escoto, M.	AGFD	29	Faccenda, E.	CINF	76
Emer, E.	MEDI	289	Escudero-Escribano, M.	CATL	2	Faccenda, E.	CINF	117
Emge, T.J.	INOR	345	Eshaghi, B.	POLY	460	Faccetti, A.	ANYL	405
Emithg, K.M.	ENVR	591	Eshleman, A.J.	MEDI	162	Fadda, E.	COMP	182
Emmerling, F.L.	ORGN	215	Eshun, A.V.	PHYS	454	Fadden, A.	BIOL	29
Emmert, M.	ENVR	25	Eskew, N.A.	CHAS	20	Faenza, N.	ENFL	402
Emmett, L.	INOR	646	Eskew, N.A.	CHED	399	Faenza, N.	PHYS	114
Emory, S.R.	CHED	350	Eslamimehr, S.	MEDI	390	Fahma, F.	CELL	36
Empfield, J.R.	MEDI	333	Eso, O.R.	INOR	642	Fahrang, A.	PHYS	195
Empfield, J.R.	MEDI	359	Espin, J.	AGFD	280	Fahrenfeld, N.	ENVR	243
Emrick, T.	PMSE	160	Espina, R.	CHED	66	Fahrenfeld, N.	ENVR	262
Emrick, T.	PMSE	671	Espindola, L.	ORGN	238	Fahrenkrug, E.	CHED	370
Emsley, L.	INOR	127	Espinosa, R.	CATL	435	Fairbanks, B.	PMSE	171
Emsley, L.	INOR	357	Espinosa Duran, J.M.	COLL	77	Fairbanks, B.	PMSE	455
Emsley, L.	INOR	762	Espinosa Duran, J.M.	COLL	333	Fairbanks, B.	POLY	79
Ementas, H.	MEDI	320	Espinosa, R.	ANYL	500	Fairbanks, B.	POLY	432
Emtiaz, S.	PHYS	588	Espiricueta, R.	CHED	347	Fairbrother, H.	ANYL	442
Emura, T.	MEDI	73	Esposito, D.V.	ENFL	392	Fairbrother, H.	ENVR	73
Ende, C.	ORGN	4	Esposito, G.	PMSE	288	Fairbrother, H.	ENVR	213
Ende, C.	ORGN	595	Esposito, J.	ANYL	127	Fairbrother, H.	INOR	633
Endicott, N.P.	BIOL	174	Ess, D.	INOR	600	Fairchild, R.	CHED	132
Endo, T.	COLL	587	Essandoh, M.	ENVR	494	Fairfield, M.N.	COMP	312
Endres, K.J.	ANYL	472	Esser-Kahn, A.	BIOL	201	Fairhurst, R.A.	MEDI	20
Endrizz, F.	NUCL	69	Esser-Kahn, A.	CATL	30	Fairley, M.	INOR	162
Enfield, R.	AGFD	97	Essigmann, J.	TOXI	34	Fairlie, D.P.	CARB	124
Eng, H.	MEDI	151	Esson, M.M.	COLL	330	Fairlie, D.P.	MEDI	230
Eng, P.J.	GEOC	59	Estabrook, D.	BIOL	282	Faith, T.	POLY	346
Engel, G.S.	PHYS	46	Estabrook, D.	POLY	276	Faivre, J.	MEDI	22
Engel, G.S.	PHYS	157	Estep, A.S.	AGRO	145	Faivre, J.	COLL	339
Engel, G.S.	PHYS	183	Estergreen, L.	PHYS	5	Fakayode, S.O.	CHED	97
Engel, G.S.	PHYS	407	Estroda, A.L.	INOR	615	Fakhraai, Z.	INOR	265
Engel, G.S.	PHYS	410	Estroff, L.A.	POLY	625	Falagan Lotsch, P.	TOXI	90
Engel, G.S.	PHYS	562	Etechgaray, J.	MEDI	372	Falatach, R.	COLL	773
Engelhard, M.	CATL	242	Etgar, L.	PHYS	52	Falck, D.	ANYL	422
Engkvist, O.	CINF	169	Etheridge, F.S.	POLY	493	Falco, A.	INOR	177
Engkvist, O.	COMP	99	Etheridge, F.S.	INOR	54	Falco, G.	POLY	299
Englehardt, J.	ENVR	17	Ethridge, A.	COLL	509	Falcone, E.	MEDI	121
Engler, A.	POLY	508	Etkin, N.	POLY	391	Fales, B.	COMP	164
English, C.	COMP	540	Etkind, S.I.	ORGN	421	Fales, S.	AGFD	126
Engreitz, J.	AGFD	339	Etxeberrria, A.	PMSE	412	Falinski, M.M.	ENVR	214
Enoksson, P.	ENFL	555	Etxeberrria, A.	POLY	334	Falk, N.A.	COLL	399
Enright, H.A.	BIOL	91	Etxeberrria, A.	POLY	465	Falkowska, M.	CATL	119
Enright, H.A.	BIOL	92	Etz, B.D.	COMP	416	Falvello, L.R.	INOR	42
Enriquez, E.	POLY	406	Etz, B.D.	NUCL	55	Falvello, L.R.	INOR	540
Entesari, N.	CATL	324	Etz, B.D.	ORGN	246	Fan, A.	ANYL	122
Entwistle, J.	GEOC	66	Etz, B.D.	POLY	351	Fan, A.	COLL	524
Eom, Y.	POLY	439	Eulau, M.	PMSE	371	Fan, C.	MEDI	282
Epemolu, O.	MEDI	206	Eun Young, S.	ORGN	342	Fan, F.	PMSE	501
Ephstein, M.	PHYS	337	Eun Young, S.	ORGN	621	Fan, G.	POLY	530
Epps, T.H.	AGFD	102	Evangelista, F.A.	COMP	162	Fan, G.	CATL	283
Epps, T.H.	PMSE	41	Evangelista, F.A.	PHYS	26	Fan, H.	PHYS	532
Epps, T.H.	POLY	64	Evangelista, R.	AGFD	247	Fan, H.	PROF	41
Epps, T.H.	POLY	238	Evans, A.C.	CINF	30	Fan, J.	PMSE	55
Epps, T.H.	POLY	304	Evans, A.C.	ORGN	268	Fan, J.	PMSE	109

Fan, J.	CELL	72	Farha, O.K.	INOR	249	Felix, V.	ORGN	419
Fan, J.	COLL	334	Farha, O.K.	ORGN	434	Fell, J.B.	MEDI	144
Fan, J.	POLY	440	Farha, O.K.	INOR	740	Fellhauer, D.	NUCL	30
Fan, J.A.	ENFL	56	Farha, O.K.	ORGN	422	Fellhauer, D.	NUCL	35
Fan, J.A.	ENFL	457	Farhadi, A.	COLL	697	Fellhauer, D.	NUCL	69
Fan, J.	MEDI	339	Farhadi, N.	POLY	452	Fellows, C.J.	AGRO	359
Fan, L.	ENFL	56	Farhadi, N.	POLY	605	Felmy, A.R.	GEOC	46
Fan, L.	ENFL	457	Farhat, R.	ENFL	23	Feltault, K.	PROF	4
Fan, L.	AGRO	105	Farhat, R.	INOR	173	Felten, A.	MEDI	426
Fan, M.	ENFL	297	Faria, J.	CATL	487	Felton, D.E.	CHED	412
Fan, S.	NUCL	36	Farias, P.	INOR	115	Felton, S.M.	ANYL	225
Fan, T.	ENFL	11	Farias Mancilla, B.	POLY	310	Fendler, N.	CARB	4
Fan, T.	ENFL	14	Farias-Pereira, R.	AGFD	331	Fendorf, S.E.	GEOC	67
Fan, T.	ENFL	26	Farjot, G.	CINF	90	Feng, A.	POLY	301
Fan, T.	ENFL	151	Farkas, M.E.	BIOL	254	Feng, C.	BIOL	126
Fan, W.	ENFL	432	Farkas, M.E.	BIOL	297	Feng, G.	CATL	355
Fan, W.	TOXI	84	Farkas, M.E.	COLL	129	Feng, H.	CATL	351
Fan, X.	CHED	70	Farkas, M.E.	COLL	134	Feng, H.	I&EC	59
Fan, X.	POLY	425	Farkas, M.E.	COLL	208	Feng, H.	COLL	787
Fan, X.	ANYL	248	Farkas, M.E.	COLL	536	Feng, J.	COLL	630
Fan, X.	ENFL	295	Farmakis, L.	COLL	290	Feng, J.	COLL	783
Fan, X.	CARB	20	Farnberger, J.	CATL	159	Feng, L.	CATL	277
Fan, X.	AGFD	131	Farnie, G.	MEDI	266	Feng, P.	INOR	13
Fan, X.	AGFD	243	Farooq, M.	CELL	32	Feng, R.	BIOL	128
Fan, X.	AGFD	245	Farragher-Gnadt, A.	CHED	49	Feng, S.	AGFD	63
Fan, X.	AGFD	246	Farrales, P.	MEDI	182	Feng, S.	AGFD	220
Fan, Y.	ENVR	297	Farrell, B.	MEDI	322	Feng, S.	AGFD	304
Fan, Y.	ENVR	369	Farrell, E.	CATL	312	Feng, S.	ANYL	254
Fan, Z.	COLL	288	Farrell, E.	POLY	62	Feng, S.	CATL	99
Fan, Z.	COLL	662	Farrell, W.	POLY	216	Feng, S.	ENFL	198
Fan, Z.	COLL	623	Farris, B.	PHYS	318	Feng, S.	PMSE	42
Fanfair, D.	AGRO	238	Farris, B.	PHYS	440	Feng, S.	PMSE	43
Fang, A.	ENFL	526	Farris, B.	PHYS	464	Feng, V.	ANYL	398
Fang, B.	ANYL	390	Farshi, J.	CHED	164	Feng, V.	TOXI	22
Fang, C.	AGRO	250	Fasolini, M.	MEDI	365	Feng, W.	COLL	104
Fang, C.	CATL	392	Fastnacht, K.	POLY	326	Feng, W.	COLL	721
Fang, H.	MEDI	265	Fataftah, M.	INOR	108	Feng, W.	PMSE	96
Fang, H.	PMSE	565	Fath, K.R.	COLL	187	Feng, X.	CATL	184
Fang, H.	ANYL	275	Fathima, A.	ENFL	427	Feng, X.	ORGN	96
Fang, H.	PHYS	385	Fatigante, W.L.	ANYL	557	Feng, X.	ORGN	97
Fang, J.	CARB	18	Fatima, F.	COMP	280	Feng, X.	ORGN	301
Fang, J.	ENVR	131	Fattahi, A.	INOR	571	Feng, X.	ORGN	303
Fang, J.	ENVR	349	Faucett, M.	BIOL	61	Feng, X.	ORGN	309
Fang, J.	ENVR	378	Faulkner, E.	I&EC	13	Feng, X.	ORGN	360
Fang, J.	ENVR	760	Fausey, C.	ENVR	461	Feng, X.	ORGN	474
Fang, L.	INOR	129	Faust, R.	POLY	588	Feng, X.	ORGN	475
Fang, L.	INOR	381	Faustino, P.	ANYL	31	Feng, X.	ENVR	7
Fang, L.	PMSE	161	Faustino, P.	ANYL	36	Feng, X.	COLL	357
Fang, L.	PMSE	327	Faustino, P.	ANYL	515	Feng, X.	ENFL	189
Fang, L.	PMSE	332	Favre, L.	PMSE	711	Feng, X.	ENFL	468
Fang, L.	PMSE	597	Favre, L.	POLY	299	Feng, X.	ENVR	216
Fang, L.	POLY	268	Favaro, M.	CATL	98	Feng, X.	POLY	240
Fang, L.	POLY	435	Favre-Godal, Q.	MEDI	428	Feng, Y.	ENFL	500
Fang, L.	BIOL	301	Fawver, A.	BIOL	231	Feng, Y.	POLY	551
Fang, L.	MEDI	48	Fayad, R.	INOR	173	Feng, Y.	POLY	233
Fang, M.	ANYL	536	Fayolle, E.	PHYS	592	Feng, Z.	CATL	3
Fang, N.	ANYL	7	Fayter, A.	PMSE	633	Feng, Z.	CATL	33
Fang, N.	ANYL	70	Fears, K.	PHYS	381	Feng, Z.	CATL	96
Fang, N.	ANYL	395	Fears, K.	PHYS	397	Feng, Z.	ENFL	441
Fang, N.	CATL	299	Fears, K.	PMSE	222	Feng, Z.	AGFD	221
Fang, S.	COMP	530	Fears, K.P.	POLY	400	Fennie, M.W.	ORGN	592
Fang, W.	PMSE	808	Fears, T.M.	COLL	726	Fennie, M.W.	ORGN	593
Fang, X.	ENFL	443	Fedeles, B.I.	TOXI	34	Fennimore, M.	PHYS	70
Fang, Y.	COMP	178	Federov, A.	ANYL	85	Fenniri, H.	COLL	197
Fang, Y.	ENVR	391	Federov, O.	MEDI	266	Fenniri, H.	COLL	214
Fang, Y.	ANYL	72	Fedick, P.W.	ANYL	557	Fensome, A.	MEDI	319
Fang, Y.	INOR	525	Fedick, P.W.	CHED	439	Fenter, P.	GEOC	27
Fang, Y.	ENFL	89	Fedick, P.W.	ENFL	491	Fenter, P.	GEOC	52
Fang, Y.	ORGN	127	Fedor, A.M.	CHED	208	Fenton, J.L.	COLL	359
Fang, Z.	CELL	6	Fedor, A.M.	CHED	222	Fenyo, D.	ANYL	487
Fang, Z.	ENFL	364	Fedor, A.M.	CHED	369	Fenyo, D.	ANYL	488
Fang, Z.	BIOL	104	Fedorov, D.G.	MEDI	309	Ferguson, A.	MEDI	19
Fang, M.	PMSE	482	Fedrizzo, B.	AGFD	249	Ferguson, A.	MEDI	70
Fantacci, S.	COMP	521	Fedrizzo, B.	AGFD	347	Ferguson, G.	MEDI	19
Fantim, M.	PMSE	190	Fedrizzo, B.	ORGN	199	Ferguson, G.	CHED	445
Fantim, M.	PMSE	305	Feeney, M.	POLY	386	Ferguson, H.	MEDI	24
Fantim, V.	MEDI	21	Fehl, C.	MEDI	69	Ferguson, K.	INOR	771
Fantim, V.	MEDI	282	Fei, H.	ENFL	279	Ferguson, M.	COMP	374
Farad, S.	ENFL	429	Fei, H.	ENFL	357	Ferguson, M.A.	CHED	173
Farahanchi, A.	PMSE	701	Fei, Q.	MEDI	411	Ferguson, M.A.	CHED	221
Faraji, S.	PHYS	348	Feig, V.	PMSE	263	Ferguson, M.A.	COLL	528
Faraldo-Gomez, J.	COMP	106	Feixas, F.	CATL	157	Ferguson, N.	AGFD	310
Faraone, A.	ANYL	248	Feizollah, P.	PHYS	318	Ferhan, A.R.	COLL	438
Faraone, J.	BIOL	29	Feizollah, P.	PHYS	440	Feric, T.	ENFL	71
Farber, R.	COLL	150	Felce, L.	MEDI	266	Feric, T.G.	ENFL	321
Farberow, C.	CATL	361	Felde, D.K.	I&EC	8	Feringa, B.	COLL	554
Fares, H.	PMSE	230	Felder, E.R.	MEDI	365	Feringa, B.	COLL	743
Farghaly, A.A.	COLL	762	Feldman, L.	BIOL	314	Feringa, B.	MPPG	37
Fargher, H.A.	ANYL	77	Feldmeyer, A.	AGFD	303	Fermann, M.E.	PHYS	192
Farha, O.K.	CATL	39	Felice, K.	POLY	535	Fernandes, A.E.	CATL	513
Farha, O.K.	CATL	87	Feliciano, P.R.	INOR	394	Fernandes, G.F.	MEDI	118
Farha, O.K.	CHED	105	Feliu, N.	COLL	365	Fernandes, S.	ORGN	657
Farha, O.K.	INOR	122	Felix, E.	CINF	80	Fernandes, S.	ANYL	11

Fernandez, A.	BIOL	186	Filippov, S.K.	POLY	316	Flannigan, D.J.	PHYS	203
Fernandez, A.L.	CHED	358	Filipski, K.J.	MEDI	270	Flask, C.A.	COLL	261
Fernandez, A.L.	CHED	444	Findlater, M.	ENVR	621	Flatebo, C.C.	PHYS	426
Fernandez, E.	CHED	327	Findlater, M.	INOR	171	Flatté, M.	PMSE	570
Fernandez, J.	TOXI	82	Findlater, M.	INOR	443	Flaxman, H.A.	BIOL	80
Fernandez, J.	INOR	322	Findlater, M.	INOR	680	Flechsigs, G.	ANYL	429
Fernandez, L.V.	INOR	183	Fingerhut, B.P.	PHYS	324	Flechsigs, G.	COLL	716
Fernandez, L.C.	COLL	111	Fink, M.	BIOL	302	Flechsigs, G.	ENVR	54
Fernandez, L.C.	ENVR	145	Finke, R.G.	INOR	412	Flecken, F.	POLY	350
Fernández-Arroyo, A.	CATL	488	Finlay, J.	PMSE	647	Fletcher, D.	MEDI	206
Fernandez Bayo, J.D.	AGRO	279	Finley, J.W.	AGFD	28	Fleet, B.	AGRO	72
Fernandez Fraguas, C.	COLL	230	Finley, J.W.	AGFD	29	Fleetham, T.	ORGN	683
Fernandez-Serra, M.	COMP	443	Finley, T.	ENFL	17	Fleischman, A.	COLL	786
Fernando, A.	COMP	265	Finley, T.	INOR	182	Fleischmann, T.	AGRO	253
Fernando, K.R.	PHYS	360	Finn, M.	BIOL	130	Fleischmann, T.	AGRO	302
Fernando, P.I.	ENVR	596	Finn, M.	CATL	251	Fleischmann, T.	AGRO	338
Fernando, P.I.	MEDI	102	Finnie, I.	CHAL	8	Fleishner, S.	CHED	76
Fernando, P.I.	ORGN	255	Finny, A.S.	ANYL	282	Fleishner, S.	CHED	391
Fernando, R.	INOR	54	Finster, D.C.	PRES	7	Fleming, C.	AGRO	32
Feroz, N.	ENVR	581	Finzi, A.	ENVR	25	Fleming, C.	AGRO	42
Ferracini, V.	AGRO	314	Finzi, A.	MEDI	80	Fleming, D.G.	PHYS	294
Ferrara, S.J.	MEDI	222	Fiorentino, E.S.	ORGN	579	Fleming, F.	ORGN	616
Ferrari, A.	PHYS	547	Fiori, L.	ENVR	227	Fleming, G.S.	ORGN	633
Ferrari, R.A.	AGFD	46	Fiori, L.	ENVR	371	Fletcher, A.	PMSE	281
Ferraris, J.P.	ENFL	289	Fiorin, G.	POLY	365	Fletcher, M.	AGRO	93
Ferraris, J.P.	ENFL	294	Fioroni, G.M.	ENFL	178	Fleury, E.	PMSE	711
Ferraro, F.	COLL	436	Firestone, M.A.	COLL	761	Fleury, E.	POLY	299
Ferraro, M.	ORGN	592	Firestone, M.A.	INOR	577	Flexner, C.	COLL	784
Ferré-D'Amaré, A.R.	BIOL	132	Firestone, M.A.	PMSE	141	Flint, A.J.	MEDI	302
Ferreira, A.	COMP	366	Firestone, M.A.	PMSE	535	Flint, N.	CHED	180
Ferreira, C.	COMSCI	9	Firestone, M.A.	POLY	236	Flitsch, S.	CARB	81
Ferreira Da Silva, F.	INOR	633	Firooznia, F.	CHED	211	Flood, A.H.	COLL	333
Ferreiro-Córdova, C.	CELL	70	Firrman, J.	AGFD	317	Flora, J.	ENVR	294
Ferrell, J.	ENFL	177	Firth, P.	ENVR	489	Flora, J.	ENVR	501
Ferrelli, G.	POLY	610	Fischer, A.E.	CHED	360	Floreancig, P.E.	ORGN	553
Ferrelli, G.	POLY	611	Fischer, A.	COMSCI	1	Flores, G.A.	INOR	430
Ferri, D.	CATL	7	Fischer, F.	POLY	100	Flores, J.A.	POLY	190
Ferri, D.	CATL	68	Fischer, F.R.	ORGN	537	Florian, H.	ANYL	450
Ferri, D.	CATL	83	Fischer, J.P.	MEDI	144	Florio, G.M.	CHED	280
Ferri, D.	CATL	383	Fischer, K.B.	ANYL	124	Flyn, N.H.	COLL	417
Ferri, D.	CATL	415	Fischer, M.	COMP	34	Flyn, N.H.	COLL	666
Ferrins, L.	CHED	127	Fischer, P.	INOR	670	Flynn, D.	AGRO	194
Ferrins, L.	MEDI	310	Fischer, P.	COLL	490	Flynn, N.O.	AGFD	99
Ferrins, L.	YCC	19	Fischer, R.	CATL	145	Flytzani-Stephanopoulos, M.	CATL	407
Ferry, J.L.	ENVR	281	Fischer, R.	INOR	616	Flytzani-Stephanopoulos, M.	CATL	447
Ferry, J.L.	ENVR	312	Fischer, S.	COLL	382	Flytzani-Stephanopoulos, M.	COMP	485
Ferry, J.L.	ENVR	667	Fischer, S.	COLL	384	Focken, T.	MEDI	333
Fesik, S.W.	MEDI	301	Fischesser, H.	POLY	16	Focken, T.	MEDI	359
Fester, J.	COLL	495	Fischmann, T.	MEDI	342	Fodor, C.	POLY	398
Fetsko, S.	CATL	260	Fiscus, D.M.	PMSE	689	Fogel, A.L.	POLY	436
Fett, E.	MEDI	368	Fish, C.L.	CHED	368	Faglia, R.	INOR	675
Feuer, H.O.	POLY	449	Fishbein, I.	COLL	468	Föhlich, A.	PHYS	108
Feyereisen, G.W.	AGRO	48	Fisher, A.D.	COMP	269	Föhlich, A.	PHYS	159
Fialoke, S.	COMP	242	Fisher, A.	BIOL	308	Foing, B.	PHYS	195
Fiammengio, R.	COLL	50	Fisher, B.	POLY	557	Folden, C.M.	NUCL	21
Fidanze, S.D.	MEDI	22	Fisher, C.J.	CARB	121	Foley, A.	ENFL	118
Fiddler, S.	CHED	62	Fisher, D.	ORGN	411	Foley, A.	INOR	20
Fiedler, A.K.	POLY	354	Fisher, D.R.	AGFD	21	Foley, C.J.	CHED	64
Fiedler, S.L.	COMP	515	Fisher, D.R.	AGFD	24	Foley, C.J.	PROF	45
Fiehn, O.	BIOL	305	Fisher, E.L.	ORGN	595	Foley, D.	MEDI	206
Fiejtek, D.K.	MEDI	111	Fisher, F.	PMSE	710	Foley, J.	CHED	113
Field, J.	CHED	82	Fisher, J.K.	CHED	260	Foley, J.	PHYS	360
Field, L.D.	COLL	704	Fisher, M.J.	INOR	230	Foley, P.	POLY	12
Field, R.	PHYS	86	Fisher, R.A.	INOR	285	Foley, R.	CELL	33
Field, R.	PHYS	137	Fisher, T.	CATL	389	Foley, S.	CHED	190
Fielden, M.	MEDI	322	Fishman, Z.	ENVR	159	Folkman, S.	INOR	412
Fields, S.K.	TOXI	60	Fiss, B.	CELL	15	Foloppe, N.	COMP	228
Fields, S.	AGRO	98	Fiss, B.	ORGN	217	Folz, J.	BIOL	305
Fier, P.	ORGN	22	Fitl, P.	CATL	326	Fombona, S.	INOR	181
Fiers, W.	MEDI	224	Fitts, J.P.	ENVR	345	Fondried, W.E.	ENFL	534
Fifer, J.	MEDI	133	Fitts, J.P.	GEOC	38	Fong, A.	CATL	60
Figg, C.A.	PMSE	293	Fitzgerald, P.	ENVR	754	Fong, D.	POLY	387
Figg, C.A.	POLY	121	Fitzpatrick, N.	CHED	243	Fong, M.	COLL	647
Figg, C.A.	POLY	332	Fitzpatrick, N.	CHED	349	Fongarland, P.	CATL	485
Figiel, L.	PMSE	63	Fivizzani, K.P.	CHAS	28	Fonner, J.M.	COMP	72
Figueiredo, M.R.	AGRO	104	Fjorodova, N.	CINF	45	Fonseca, F.	COMP	434
Figueroa, M.	AGFD	189	Flach, J.	PHYS	100	Fonseca, M.V.	CHED	344
Figueroa, K.	AGFD	344	Flack, S.	AGRO	62	Fontaine, F.G.	ENVR	467
Figueroa-Navedo, A.	CHED	340	Flaherty, D.	CATL	172	Fontaine, F.G.	INOR	146
Figyemesi, Á.	CINF	17	Flaherty, D.	CATL	422	Fontana, J.	PHYS	392
Filardi, L.	PMSE	111	Flaherty, P.T.	MEDI	128	Fontenot, S.A.	ANYL	77
Filez, M.	CATL	446	Flaherty, P.T.	MEDI	129	Foo, G.	CATL	234
Filgueira, C.S.	COLL	436	Flaig, M.	MEDI	129	Foppe, K.	ENVR	518
Filimonov, D.	CINF	59	Flake, J.	AGFD	222	Foppe, K.	ENVR	751
Filimonov, D.	CINF	139	Flanagan, D.P.	ENVR	320	Foppe, K.	ENVR	752
Filimonov, D.	CINF	160	Flanagan, D.P.	POLY	262	Forbes, K.C.	MEDI	38
Filimonov, D.	CINF	160	Flanagan, D.P.	POLY	449	Forcén-Vázquez, E.	INOR	540
Filimonov, D.	COMP	151	Flanagan, M.L.	BIOL	309	Forcherio, G.	COLL	742
Filimonov, D.	COMP	348	Flanagan, M.L.	ORGN	399	Forciniti, D.	I&E	31
Filimonov, D.	MEDI	401	Flanders, B.	INOR	99	Ford, E.	POLY	263
Filimonov, D.	MEDI	452	Flanders, M.J.	POLY	533	Ford, H.O.	POLY	247
Filina, A.	ENVR	136	Flanders, N.	PMSE	166	Ford, J.M.	PMSE	247
Filip, P.	CARB	84	Flanley, G.	AGRO	37	Ford, J.R.	MEDI	93
Filippov, S.K.	POLY	315	Flannely, D.	CATL	336		CHED	168

Ford, M.	CATL	228	Fraikin, J.	COLL	25	Freundlich, J.S.	MEDI	114
Ford, R.	CHED	314	France, F.G.	POLY	97	Frey, B.	TOXI	73
Forde, A.	COMP	194	Francesconi, L.C.	NUCL	29	Frey, M.	ENFL	152
Forde, A.	COMP	278	Francesconi, L.C.	NUCL	63	Frey, N.C.	COMP	51
Forde, A.	COMP	288	Franchi, L.	MEDI	4	Freychert, G.	CATL	48
Foreman, R.	CHED	274	Francini, N.	PMSE	336	Frick, G.	COLL	456
Foreman-Ortiz, I.	ANYL	392	Francis, L.	POLY	125	Fridberg, K.	INOR	49
Forest, K.T.	MEDI	122	Francis, M.B.	ANYL	527	Fried, D.B.	CHED	359
Forget, G.	ENVR	82	Francis, M.B.	COLL	344	Fried, L.E.	COMP	504
Forman, M.A.	ORGN	440	Francis, S.	ENFL	338	Frieden, M.	MEDI	426
Fornelos, N.	BIOL	302	Francis, S.	COLL	149	Friedfeld, M.	INOR	205
Fornier-Cuenca, A.	ENFL	275	Francisco, J.S.	PHYS	34	Friedman, C.	ENVR	82
Forneris, C.C.	WCC	9	Franco, I.	PHYS	177	Friedman, M.	AGFD	1
Forrest, G.	MEDI	311	Franco, J.	CHED	56	Friedman, M.	AGFD	301
Forrest, S.	ORGN	683	Franco, J.G.	AGRO	274	Friedrich, A.	ORGN	587
Forry, S.P.	COLL	312	Franco, W.	PMSE	775	Friedrich, B.	PHYS	32
Fors, B.P.	ORGN	372	Francoia, J.	COMSCI	4	Friedrich, L.	CINF	25
Fors, B.P.	POLY	217	Franden, M.	CATL	403	Friedrich, N.	CINF	22
Fors, B.P.	POLY	520	Franek, J.E.	CHED	35	Friend, C.M.	CATL	176
Fors, B.P.	POLY	528	Frank, A.	AGRO	23	Friend, C.M.	CATL	458
Fors, B.P.	POLY	574	Frank, B.	ENVR	213	Friesen, J.A.	BIOL	237
Fors, B.P.	WCC	7	Frank, C.W.	COLL	371	Friesner, R.A.	COMP	295
Fort, E.H.	ENFL	317	Frank, C.W.	COLL	798	Frigerio, R.	MEDI	362
Fort, R.	AGFD	85	Frank, H.A.	PHYS	404	Frisch, M.J.	PHYS	124
Fort, R.	ENVR	573	Frank, J.	PMSE	446	Frischknecht, A.L.	PRES	28
Fortenberry, R.C.	PHYS	386	Frank, O.	AGFD	291	Frischknecht, A.L.	PRES	30
Forth, J.	PMSE	96	Franke, J.	AGRO	211	Frischio, T.	CELL	15
Forticaux, A.	PMSE	820	Franke, R.	CATL	55	Frischio, T.	COMP	538
Fortman, D.J.	POLY	199	Frankenfield, K.M.	BIOL	273	Frischio, T.	INOR	243
Fortman, G.	INOR	668	Frankenfield, S.	ENVR	312	Frischio, T.	INOR	249
Fortman, G.	INOR	689	Franklin, E.G.	ANYL	157	Frischio, T.	INOR	656
Fortner, J.	CATL	283	Franklin, K.	MEDI	226	Frischio, T.	ORGN	211
Fortner, J.	COLL	725	Franks, C.E.	ANYL	554	Frischio, T.	ORGN	217
Fortner, J.	ENVR	372	Franks, C.E.	BIOL	250	Frischio, T.	ORGN	430
Fortunelli, A.	CATL	367	Frantom, P.A.	BIOL	176	Frischio, T.	ORGN	431
Fortunelli, A.	ENFL	119	Frantz, D.K.	CHED	317	Frischio, T.	ORGN	432
Fosbenner, D.T.	MEDI	25	Franz, A.K.	CHED	90	Frischio, T.	ORGN	433
Fossey, S.	POLY	605	Franz, A.K.	CHED	342	Frischio, T.	ORGN	434
Foster, C.	BIOL	109	Franz, K.J.	INOR	187	Frischio, T.	ORGN	435
Foster, E.	PMSE	25	Franzblau, S.G.	MEDI	118	Frischio, T.	ORGN	436
Foster, E.	PMSE	215	Franzini, R.M.	MEDI	13	Frisenda, R.	INOR	80
Foster, G.D.	ENVR	640	Franzmann, P.	ORGN	14	Fritch, B.	COMP	241
Foster, G.D.	ENVR	708	Franzmann, P.	ORGN	17	Fritsche, J.	AGFD	14
Foster, J.	POLY	167	Franzmann, P.	ORGN	130	Fritschi, C.	CHED	325
Foster, J.	POLY	470	Fraser, A.	ENVR	327	Frkonja-Kuczyn, A.	ANYL	88
Foster, K.W.	COLL	616	Fraser, C.L.	INOR	130	Frolov, K.	MEDI	238
Foster, M.R.	ANYL	32	Fraser, C.L.	INOR	321	Fromager, E.	COMP	16
Foster, M.C.	ANYL	304	Fraser, C.L.	INOR	650	Frommer, J.	COLL	116
Foster, M.C.	CATL	444	Fraser, C.L.	PMSE	626	Frommer, J.	MPPG	112
Foster, M.C.	COLL	329	Fraser, C.L.	PROF	4	Frontier, A.J.	ORGN	639
Foster, M.C.	COLL	484	Fraser, D.	COMSCI	8	Frontiera, R.R.	ANYL	356
Foster, M.C.	PHYS	491	Fraser, G.	PROF	4	Frontiera, R.R.	ANYL	403
Foster, M.C.	PHYS	498	Fraser, H.	ENVR	468	Frontiera, R.R.	ANYL	549
Foster, M.C.	PHYS	507	Fraser-Mcarthur, J.	MEDI	190	Frontiera, R.R.	MPPG	81
Foston, M.B.	CATL	283	Fraser-Mcarthur, J.	MEDI	453	Frontiera, R.R.	PHYS	265
Foston, M.B.	CATL	220	Fratantonio, V.	INOR	695	Frontiera, R.R.	PHYS	409
Fosu, S.C.	ORGN	287	Frater, G.	INOR	93	Froyum, J.	ENVR	639
Fotsing Kwetche, C.	PHYS	542	Fratto, E.S.	INOR	531	Fruehauf, K.	PMSE	623
Foudazi, R.	PMSE	141	Fratzl, M.	ANYL	61	Fry, C.G.	COLL	632
Foudazi, R.	PMSE	535	Frauenheim, T.E.	COMP	444	Fry, H.C.	BIOL	32
Foudazi, R.	POLY	191	Frauli, M.	MEDI	71	Fry, J.	CHED	330
Foulger, S.H.	POLY	170	Frausto, F.	ORGN	685	Frye, J.G.	CATL	170
Fouly, H.	POLY	445	Frazier, L.	PHYS	518	Frye, S.V.	MEDI	54
Fourches, D.	CINF	50	Frazier, C.E.	CELL	30	Frye, S.V.	MEDI	138
Fourches, D.	COMP	74	Freakley, S.	CATL	25	Frye, S.V.	MEDI	149
Fourches, D.	COMP	463	Frechette, J.	COLL	551	Frye, S.V.	MEDI	292
Fournier, M.	PHYS	372	Fredenburg, R.	MEDI	410	Frye, S.V.	MEDI	303
Foust, T.	ENFL	484	Frederick, B.	ENVR	514	Fryhle, H.	ENVR	515
Fout, A.R.	INOR	389	Fredricks, T.	AGRO	363	Frølund, B.	MEDI	137
Fout, A.R.	INOR	607	Fredrickson, G.H.	POLY	585	Fu, Z.	MEDI	322
Fowler, E.W.	POLY	421	Freedman, D.E.	INOR	108	Fu, C.	COLL	569
Fowler, E.W.	POLY	481	Freedman, D.E.	PHYS	190	Fu, C.	PHYS	488
Fowler, E.W.	POLY	482	Freedman, J.	MEDI	110	Fu, D.	ANYL	401
Fowler, G.D.	ENVR	369	Freeland, J.W.	ENFL	351	Fu, D.	CATL	446
Fox, J.M.	COLL	346	Freeman, A.W.	PMSE	394	Fu, E.	ANYL	13
Fox, J.M.	PMSE	632	Freeman, K.	MEDI	189	Fu, F.	ENVR	77
Fox, J.M.	PMSE	813	Freeman, L.	INOR	226	Fu, G.	POLY	266
Fox, J.M.	POLY	32	Freer, A.	BIOL	191	Fu, H.	MEDI	244
Fox, S.	INOR	180	Frei, H.M.	ENFL	74	Fu, I.	TOXI	43
Fox, S.	INOR	221	Freigang, J.	AGRO	211	Fu, J.	CATL	477
Foxley, M.	MEDI	49	Freire, R.	CINF	4	Fu, J.	ENFL	445
Foxley, M.	MEDI	431	Frenette, L.	ENFL	396	Fu, J.	ENFL	450
Foy, G.P.	ENVR	168	Frenkel, A.	CATL	15	Fu, J.	ANYL	45
Fozo, E.	ANYL	113	Frenkel, A.	CATL	253	Fu, K.	ANYL	267
Frackenpohl, J.	AGRO	211	Frenkel, A.	INOR	372	Fu, L.	CELL	72
Fradera, X.	MEDI	24	Frenkel, D.	COMP	332	Fu, N.	CATL	338
Fradera, X.	MEDI	112	Freppon, D.	ANYL	357	Fu, Q.	PMSE	599
Fradera, X.	MEDI	342	Frerot, E.	AGFD	269	Fu, Q.	CATL	174
Fraga, C.	ANYL	244	Fresch, B.	PHYS	415	Fu, Q.	CATL	412
Fraga, C.	ANYL	246	Freudenberg, J.	ORGN	412	Fu, Q.	PMSE	528
Fraggedakis, D.	PHYS	65	Freudenberg, J.	ORGN	587	Fu, R.	ENVR	780
Fragneto, G.	COLL	646	Freund, H.	CATL	290	Fu, R.	INOR	668
Fragola, A.	COLL	686	Freundlich, J.S.	MEDI	268	Fu, T.	CHED	279

Fu, W.	ENVR	18	Gaba, A.	COLL	751	Gallei, M.	PMSE	549
Fu, Y.	POLY	426	Gabbai, F.P.	ANYL	26	Gallei, M.	PMSE	604
Fu, Z.	PMSE	798	Gabbai, F.P.	INOR	85	Gallei, M.	POLY	283
Fu, Z.	ENVR	160	Gabbai, F.P.	INOR	263	Galler, A.	PHYS	109
Fuchs, G.	PMSE	415	Gabbert, D.R.	AGRO	227	Galli, G.A.	COMP	125
Fuchs, G.	PMSE	570	Gabbeta, V.	MEDI	286	Galli, G.A.	COMP	482
Fuchs, P.	PMSE	772	Gaber, F.	PROF	28	Galicchio, E.	COMP	244
Fudimura, K.	PHYS	495	Gabidullin, B.	INOR	233	Galicchio, E.	COMP	339
Fuentes, C.	AGFD	250	Gabinet, U.	ENVR	159	Galicchio, E.	MEDI	357
Fujii, S.	CATL	76	Gabor, H.M.	CHED	76	Galliher, M.S.	ORGN	618
Fujii, S.	COLL	586	Gabor, H.M.	CHED	391	Gallis, C.	COLL	249
Fujii, S.	COLL	591	Gabriel, B.	AGRO	294	Gallo, D.T.	ENVR	445
Fujii, S.	COLL	595	Gabrys, P.	COLL	757	Gallo, M.	CHED	198
Fujii, S.	COLL	596	Gabrys, P.	COLL	763	Gally, J.	COMP	432
Fujii, S.	AGFD	5	Gaczynska, M.E.	BIOL	217	Galmozzi, A.	MEDI	29
Fujii, S.	AGFD	83	Gade, L.H.	INOR	593	Galuba, I.	MEDI	20
Fujii, Y.	PMSE	613	Gade, L.H.	INOR	674	Galvani, A.	MEDI	365
Fujikawa, A.	PRES	28	Gadgil, A.J.	ENVR	525	Galvao, B.R.	PHYS	71
Fujimoto, C.	AGFD	7	Gadhachanda, V.R.	MEDI	261	Galvão, R.	PMSE	464
Fujioka, H.	ORGN	332	Gadiano, A.	MEDI	139	Gálvez, A.	CHED	138
Fujita, E.	CATL	130	Gadikota, G.	ENFL	54	Gam, J.	MEDI	373
Fujita, E.	CATL	189	Gadikota, G.	ENFL	78	Gamage, P.L.	POLY	354
Fujita, E.	INOR	252	Gadzikwa, T.	INOR	123	Gamarro, D.L.	INOR	452
Fujita, H.	ORGN	565	Gaertner, A.A.	INOR	186	Gamble, J.D.	AGRO	48
Fujita, K.	ANYL	400	Gaertner, T.	COMP	137	Gamble, V.	MEDI	266
Fujita, K.	COLL	587	Gaeta, R.	AGRO	370	Gamel, O.	COMP	216
Fujita, M.	ENFL	236	Gaeth, S.	GEOC	19	Gamelin, D.R.	PHYS	402
Fujita, M.	PMSE	513	Gaffney, A.	CATL	293	Gamler, J.	INOR	269
Fujita, M.	PMSE	514	Gaffney, A.M.	ENFL	77	Gamo, F.	MEDI	332
Fujita, M.	PMSE	519	Gaffney, K.	PHYS	107	Gan, J.	GEOC	55
Fujita, M.	PMSE	547	Gaffney, K.	PHYS	108	Gan, L.	MEDI	372
Fujita, M.	PMSE	573	Gaffney, K.	PHYS	111	Gan, X.	COLL	318
Fujita, M.	POLY	361	Gaffney, K.	PHYS	159	Ganachaud, F.	PMSE	711
Fujita, M.	POLY	362	Gaffney, U.	ORGN	619	Ganachaud, F.	PMSE	712
Fujita, M.	POLY	363	Gagliardi, L.	CATL	291	Ganachaud, F.	POLY	299
Fujitake, N.	NUCL	43	Gagliardi, L.	COMP	87	Gandour, R.D.	MEDI	6
Fujitani, H.	COMP	360	Gagliardi, L.	COMP	205	Gandrath, D.	INOR	249
Fujiwara, N.	COLL	205	Gagliardi, L.	COMP	518	Gandrath, D.	INOR	656
Fujiwara, T.	ENVR	481	Gagliardi, L.	COMP	554	Ganem Rondero, F.	COLL	231
Fujiwara, Y.	INOR	716	Gagne, O.C.	INOR	442	Ganesan, S.	COLL	732
Fukahori, S.	ENVR	481	Gagneux, P.	CARB	121	Ganesh, A.	COLL	629
Fukuda, K.	ORGN	564	Gagnon, D.	INOR	390	Ganesh, A.N.	COLL	779
Fukuda, K.	ORGN	574	Gagnon, G.A.	ENVR	237	Ganesh Kumar, A.	PMSE	407
Fukuhara, K.	MEDI	96	Gagnon, G.A.	ENVR	763	Gang, W.	MPPG	16
Fukuhara, K.	MEDI	388	Gagnon, V.	ENVR	360	Gangal, G.	CHED	138
Fukuoka, A.	CATL	345	Gagnon, V.	ENVR	361	Ganganboina, A.	ANYL	200
Fukushima, K.	COLL	276	Gagosz, F.	COMP	425	Ganganboina, A.	ENFL	533
Fuladpanjeh-Hojaghan, B.	COLL	418	Gai, F.	PHYS	376	Gangishetty, M.	COLL	375
Fuller, E.J.	ENFL	467	Gai, H.	ENVR	681	Gangjee, A.	MEDI	98
Fuller, F.	PHYS	58	Gaikwad, A.	PMSE	183	Gangjee, A.	MEDI	99
Fuller, M.	AGFD	144	Gaikwad, S.	ORGN	204	Gangjee, A.	MEDI	185
Fuller, N.O.	MEDI	14	Gaines, T.	AGRO	100	Gangjee, A.	MEDI	227
Fullner, K.	AGRO	193	Gaines, T.	AGRO	103	Ganguly, A.	PMSE	423
Fulong, C.P.	INOR	638	Gaines, T.	AGRO	104	Ganim, Z.	PHYS	22
Fulton, J.	ENVR	399	Gaines, T.	AGRO	106	Gann, E.	PMSE	661
Fulton, J.	ENVR	468	Gair, J.	POLY	454	Gans, K.	PMSE	495
Fulton, J.	CATL	100	Gaito, A.	CHED	166	Ganss, V.	CHED	13
Fulton, J.	CATL	396	Gajewska, E.	CINF	145	Gant, P.	INOR	80
Fulweiler, R.W.	INOR	485	Gajewska, E.	COMP	306	Gant Kanegusuku, A.	ORGN	75
Fumanal, M.	INOR	63	Gajiwala, K.	MEDI	282	Ganz, T.C.	ENVR	234
Funatsu, K.	CINF	92	Gakh, A.A.	ORGN	312	Gao, B.	ENVR	774
Fundator, M.	ANYL	561	Gakiya, M.R.	COLL	196	Gao, B.	AGFD	16
Fung, V.	CATL	234	Gakiya, M.R.	COLL	235	Gao, B.	AGFD	146
Fung, V.	CATL	450	Gal, J.	HIST	20	Gao, B.	AGFD	232
Fung, V.	COMP	231	Galagan, J.	ANYL	122	Gao, B.	AGFD	314
Funkenbusch, M.T.	COLL	143	Galagan, J.	COLL	524	Gao, C.	PHYS	419
Funkenbusch, M.T.	COLL	398	Galagedera, S.K.	COLL	716	Gao, C.	CARB	12
Furche, F.U.	BIOL	126	Galagedera, S.K.	ANYL	429	Gao, C.	CARB	27
Furche, F.U.	COMP	163	Galan, M.G.	CARB	127	Gao, C.	PMSE	359
Furche, F.U.	COMP	207	Galar, P.	PHYS	41	Gao, F.	COLL	122
Furchner, A.	ENVR	123	Galazzo, M.	PMSE	715	Gao, F.	COLL	427
Furchner, A.	PMSE	494	Gale, E.	INOR	548	Gao, G.	ENVR	588
Furdui, V.I.	AGRO	108	Gale, E.	NUCL	16	Gao, H.	POLY	265
Furet, P.	MEDI	20	Gale, J.P.	COMP	565	Gao, H.	CINF	168
Furey, J.S.	ENVR	598	Gale, J.	GEOC	28	Gao, H.	COMSCI	7
Furgal, J.C.	PMSE	603	Galhenage, T.P.	PMSE	650	Gao, H.	ENFL	222
Furmanchuk, A.	COMP	212	Galileo, D.	BIOL	109	Gao, H.	PHYS	157
Furst, A.L.	ANYL	527	Galinat, K.	COLL	755	Gao, J.	COMP	510
Furst, A.L.	COLL	344	Gall, T.L.	COLL	544	Gao, J.	BIOL	214
Furue, M.	COMP	319	Gallagher, E.S.	CARB	15	Gao, J.	ORGN	365
Furukawa, K.	POLY	296	Gallagher, J.	POLY	607	Gao, L.	ANYL	279
Furukawa, M.	CATL	287	Gallagher, M.J.	ANYL	442	Gao, L.	ENVR	227
Furukawa, M.	ENVR	623	Gallagher, M.J.	ENVR	73	Gao, L.	ENVR	371
Furuta, Y.	MEDI	73	Gallagher, N.	POLY	87	Gao, L.	PMSE	506
Furutani, M.	PMSE	499	Gallagher, N.	POLY	231	Gao, L.	AGFD	260
Furutani, M.	PMSE	500	Gallagher, R.	COLL	736	Gao, L.	ENVR	158
Furutani, M.	PMSE	508	Gallagher, T.C.	CHAS	33	Gao, L.	ENVR	636
Furuya, T.	AGRO	346	Gallaher, J.K.	PHYS	518	Gao, M.	PMSE	110
Fuster, C.	ANYL	119	Gallant, B.	ENFL	69	Gao, M.	CATL	264
Gaarde, M.	COMP	53	Gallardo, L.	BIOL	94	Gao, M.	COLL	352
Gaarde, M.	PHYS	90	Galloway, J.	ENFL	522	Gao, M.	ENFL	71
Gaba, A.	COMP	351	Galleano, I.	MEDI	384	Gao, M.	ENFL	321
Gaba, A.	CHED	220	Gallego, S.	ENVR	262	Gao, M.	MEDI	443

Gao, M.	MEDI	379	Gardner, K.E.	CHED	246	Geach, N.	AGRO	337
Gao, M.	CATL	476	Gardner, N.	PROF	32	Geacintov, N.E.	TOXI	97
Gao, N.	MEDI	70	Garfield, J.J.	CHED	344	Geary, L.	INOR	23
Gao, Q.	ORGN	388	Garfu, Y.	COMSCI	3	Gebru, A.	NUCL	34
Gao, R.	BIOL	64	Garfunkel, E.	ENFL	292	Geckeis, H.	NUCL	30
Gao, S.	ENFL	456	Garfunkel, E.L.	ENFL	4	Geckeis, H.	NUCL	35
Gao, S.	ENVR	413	Garfunkel, E.L.	ENFL	249	Geckeis, H.	NUCL	68
Gao, S.	POLY	57	Garfunkel, E.L.	ENFL	290	Gedeck, P.	CINF	13
Gao, T.	ANYL	248	Garfunkel, E.L.	ENFL	291	Gedik, N.	PHYS	147
Gao, T.	ENFL	295	Garfunkel, E.L.	ENFL	295	Gee, S.	PMSE	717
Gao, T.	ENVR	601	Garg, A.	ENFL	115	Geenen, F.	COLL	679
Gao, W.	CATL	69	Garg, N.K.	ORGN	235	Geerdink, D.	AGRO	209
Gao, W.	CATL	71	Garg, N.K.	ORGN	336	Geeson, M.B.	INOR	648
Gao, W.	PMSE	819	Garg, R.	COMP	361	Gehen, S.C.	AGRO	241
Gao, X.	CATL	353	Garg, S.	ENVR	319	Gehling, V.	MEDI	283
Gao, X.	PHYS	344	Garibay, S.J.	INOR	740	Gehm, M.E.	ANYL	517
Gao, X.	PMSE	329	Garimella, S.V.	ANYL	514	Gehrke, L.	ANYL	64
Gao, X.	ANYL	279	Garland, M.	NUCL	1	Geiger, A.	ANYL	450
Gao, Y.	COLL	616	Garland, M.	NUCL	4	Geiger, B.	COLL	701
Gao, Y.	ENVR	237	Garland, M.	NUCL	6	Geiger, J.	PHYS	464
Gao, Y.	ENVR	763	Garland, M.A.	ENVR	214	Geissler, E.	CHED	268
Gao, Y.	ENVR	570	Garlick, J.	BIOL	221	Geissler, E.	ORGN	295
Gao, Y.	CATL	27	Garlot, A.	MEDI	101	Gelb, M.H.	BIOL	4
Gao, Y.	COLL	734	Garlow, A.	TOXI	48	Geldart Flashman, J.	ANYL	49
Gao, Y.	PHYS	95	Garrestani, H.	PMSE	116	Gelin, M.	PHYS	334
Gao, Y.	CATL	220	Garner, A.J.	ENVR	87	Gelle, A.	COLL	424
Gao, Y.	ENFL	38	Garner, A.J.	ENVR	727	Gelle, A.	COLL	661
Gao, Y.	CATL	191	Garoutte, M.P.	CHED	62	Geller, D.	PMSE	551
Gao, Y.	ENFL	35	Garrett, A.	ANYL	485	Gellman, A.J.	CATL	241
Gao, Y.	GEOC	14	Garrett, K.E.	NUCL	24	Gellman, A.J.	COLL	41
Gao, Z.	ENVR	580	Garrido Frenich, A.	AGRO	352	Gellman, A.J.	COLL	76
Gaona, X.	NUCL	30	Garritano, J.R.	CINF	111	Gelpi Dominguez, S.	COMP	314
Gaona, X.	NUCL	33	Gartia, M.R.	ANYL	505	Gembicky, M.	INOR	621
Gaona, X.	NUCL	35	Garusinghe, G.S.	INOR	188	Gemel, C.	INOR	616
Gaona, X.	NUCL	68	Garusinghe, G.S.	INOR	775	Gençer, A.	CELL	54
Gaona, X.	NUCL	69	Garwin, J.	ORGN	503	Geng, Y.	ANYL	25
Garafalo, A.	CHED	52	Garzino-Demo, A.	COMP	529	Geng, Y.	BIOL	48
Garand, E.	PHYS	263	Gascon, J.	COMP	314	Genina, I.E.	PMSE	37
Garanger, E.	PMSE	119	Gascon, J.	COMP	333	Gentleman, D.J.	AGRO	268
Garayeva, L.	INOR	144	Gascon, J.	ENVR	661	George, A.	COMP	404
Garber, K.	AGRO	22	Gasparrí, F.	MEDI	362	George, D.	CHED	159
Garber, K.	AGRO	235	Gasparrini, A.J.	MEDI	48	George, D.M.	MEDI	8
García, A.	PMSE	239	Gassensmith, J.J.	COLL	83	George, K.	ANYL	528
García, C.	CATL	483	Gassensmith, J.J.	COLL	160	George, M.	INOR	353
García, D.	POLY	319	Gassie, L.	ENVR	17	George, S.	AGFD	96
García, D.R.	ORGN	598	Gates, B.C.	CATL	392	George, S.C.	MPPG	26
García, D.	YCC	13	Gates, B.	ANYL	106	George, Y.	PROF	36
García, F.	ORGN	212	Gates, B.D.	COLL	29	George-Weinstein, M.	COLL	792
García, F.	COLL	112	Gates, B.D.	COLL	182	Georgi, J.C.	ANYL	547
García, G.	PHYS	83	Gates, B.D.	COLL	692	Geppert, D.	CINF	68
García, J.	POLY	346	Gatti, F.	PHYS	295	Gera, R.	PHYS	477
García, J.M.	CHED	235	Gattis, B.	PHYS	448	Geraci, C.L.	CHAS	14
García, J.M.	CHED	395	Gattuso, H.	INOR	63	Gerakines, P.	PHYS	589
García, J.C.	ANYL	247	Gattuso, H.	PHYS	415	Gerakines, P.	PHYS	591
García, L.F.	POLY	115	Gau, E.	POLY	350	Gerard, G.	AGRO	256
García, M.	POLY	160	Gaudin, T.	COMP	44	Gerardi, J.K.	ENFL	449
García, R.A.	ENVR	494	Gaudin, T.	COMP	101	Gerasimchuk, N.	INOR	518
García, S.	AGFD	40	Gaudino, J.J.	MEDI	144	Gerbaux, P.	INOR	64
García, Y.	MEDI	342	Gauld, S.B.	MEDI	10	Gerbaux, P.	INOR	112
García, C.J.	AGFD	152	Gaulton, A.	CINF	80	Gerber, A.	ANYL	430
García, I.	ANYL	210	Gaulton, A.	CINF	116	Gerber, C.	COLL	291
García, I.	COLL	32	Gaulton, A.	CINF	118	Gerberich, J.	MEDI	97
García, I.	COLL	364	Gaunt, M.	ORGN	70	Gerdon, A.E.	CHED	148
García-Borràs, M.	CATL	157	Gaunt, M.	ORGN	333	Gerdon, A.E.	CHED	149
García-Borràs, M.	ORGN	505	Gaur, R.	CATL	80	Gerdon, A.E.	CHED	385
García-Bosch, I.	INOR	453	Gautam, D.	PMSE	295	Gerdt, J.P.	BIOL	311
García-Bosch, I.	INOR	770	Gauvin, R.	ENFL	349	Gerencsér, J.	MEDI	75
García-Chacón, J.	AGFD	287	Gavai, A.V.	MEDI	265	Gerios, V.	COLL	226
García-De-La-Rosa, L.A.	CHED	289	Gavenonis, J.	BIOL	242	Gerislioglu, S.	ANYL	94
García De Lomana, M.	CINF	22	Gavenonis, J.	ORGN	158	Gerke, F.	ENFL	438
García-Gallego, S.	PMSE	48	Gavlick, W.	AGRO	226	Gerlach, E.M.	ORGN	388
García-Gallego, S.	PMSE	724	Gavrylenko, O.	CINF	162	Gerlach, R.	GEOC	69
García Herraiz, A.	ORGN	178	Gavrylenko, O.	MEDI	415	Gerlinger, C.	ORGN	518
García-López, V.	ANYL	219	Gavvalapalli, N.	PMSE	165	German, N.A.	MEDI	41
García-Losada, P.	MEDI	330	Gawalt, E.S.	COMP	368	German, N.A.	MEDI	165
García Martínez, J.	ENFL	275	Gawelda, W.	PHYS	109	German, S.	ENVR	768
García Martínez, J.	ENFL	276	Gawelda, W.	PHYS	217	Germann, L.	INOR	249
García Mendoza, A.D.	ANYL	103	Gayapa, A.	CHED	333	Gerringer, J.	CELL	28
García Mendoza, A.D.	ANYL	134	Gayvert, J.R.	COMP	371	Gerringer, J.	PMSE	543
García Sánchez, J.	COLL	231	Ge, H.	ORGN	119	Gerringer, J.	PMSE	730
García-Segura, S.	CHED	120	Ge, H.	ORGN	556	Gerrity, D.	CHED	158
García-Segura, S.	ENVR	486	Ge, H.	ORGN	561	Gerry, C.J.	BIOL	281
García-Segura, S.	ENVR	816	Ge, H.	COLL	607	Gersbach, C.	BIOL	3
García Suero, M.	ORGN	178	Ge, H.	INOR	637	Gerspacher, M.	MEDI	101
García Suero, M.	ORGN	333	Ge, L.	COLL	283	Gerstenberger, B.S.	MEDI	319
García-Villalba, R.	AGFD	53	Ge, M.	ENFL	521	Gerwald, J.	MEDI	102
García-Villalba, R.	AGFD	280	Ge, M.	MPPG	39	Geryak, R.	CELL	63
Gardinali, P.	ENVR	17	Ge, N.	MPPG	117	Getman, R.B.	CATL	6
Gardiner, A.	PHYS	46	Ge, Q.	CATL	203	Getman, R.B.	CATL	385
Gardiner, A.	PHYS	562	Ge, Q.	CATL	268	Getts, R.	COLL	792
Gardiner, M.	MEDI	93	Ge, S.	ANYL	469	Geubelle, P.H.	POLY	434
Gardner, A.	INOR	760	Geach, N.	AGRO	247	Geva, N.	COMP	292
Gardner, E.	INOR	559	Geach, N.	AGRO	248	Geva, N.	COMP	324

Gevorkyan, H.	MEDI	330	Gibson, M.I.	COLL	687	Girolami, G.S.	HIST	26
Gewirth, A.A.	ENFL	141	Gibson, M.I.	PMSE	101	Giroud, C.	MEDI	266
Gewirth, A.A.	ENFL	208	Gibson, M.I.	PMSE	333	Giroud, M.	ORGN	336
Gewirth, A.A.	ENFL	383	Gibson, M.I.	PMSE	633	Gissinger, J.	PMSE	251
Ghaffari, B.	ORGN	125	Gibson, M.I.	POLY	27	Gissinger, J.	POLY	468
Ghaffari, B.	ORGN	126	Gibson, M.I.	POLY	128	Gitipour, A.	ENVR	356
Ghanbari, S.	CELL	61	Gibson, M.I.	POLY	272	Gitman, P.	ENVR	530
Ghandour, H.	INOR	173	Gibson, M.I.	POLY	484	Giuffrida, D.	AGFD	287
Ghannadian, P.	COLL	258	Gibson, M.I.	POLY	564	Giunta, C.J.	HIST	16
Gharib, O.	CHED	183	Giddings, J.	AGRO	362	Giunta, C.J.	HIST	30
Ghauch, A.	ANYL	182	Gierasch, L.M.	COMP	540	Gladue, C.	COMP	548
Ghauch, A.	ENVR	759	Gieri, P.	HIST	3	Gladysz, J.A.	ORGN	99
Ghazi, P.	COLL	208	Giesecking, R.	COMP	3	Gladysz, J.A.	INOR	615
Ghazvini, C.L.	ANYL	97	Giesler, K.	AGRO	87	Gladysz, J.A.	POLY	376
Ghazvini, C.L.	ANYL	168	Giffen-Kent, K.	MEDI	195	Glaser, J.A.	ENVR	321
Ghazvini, C.L.	I&E	50	Gifford, B.	COMP	285	Glaser, J.A.	ENVR	444
Ghebrehiwet, A.	INOR	483	Gigault, J.	POLY	173	Glass, J.T.	ANYL	517
Ghebremichael, L.	AGRO	23	Gigon, A.	BIOL	70	Glass, J.T.	ENFL	500
Gheni, A.	ENVR	540	Gigón, R.	AGRO	334	Glass, J.I.	ENVR	272
Gheytani, S.	ENFL	44	Giguère, D.	CARB	38	Glass, T.E.	ANYL	73
Ghiassi, K.B.	INOR	303	Giguère, D.	CARB	39	Glass, T.E.	ANYL	533
Ghiassi, K.B.	INOR	500	Giguère, D.	CARB	40	Glaves, H.	CINF	87
Ghidey, Y.	COLL	428	Giguère, D.	CARB	129	Glazer, E.C.	INOR	191
Ghiggino, K.	PHYS	413	Gijsen, H.	MEDI	124	Glazer, E.C.	INOR	572
Ghiggino, K.	PHYS	472	Gilbert, J.R.	AGRO	109	Glazer, E.C.	MEDI	180
Ghiggino, K.	PHYS	516	Gilbert, T.R.	CHED	128	Gleason, K.	ENVR	795
Ghilardi, S.	BIOL	63	Gilbert, T.R.	CHED	373	Gleason, K.	PMSE	557
Ghildiyal, P.	COLL	280	Gilbertson, J.	CHED	166	Glebe, U.	POLY	229
Ghildiyal, P.	COLL	324	Gilbertson, L.M.	ENVR	215	Gledhill, J.	CHAL	9
Ghimire, A.	COLL	411	Gilbreath, R.	NUCL	17	Gleghorn, M.	BIOL	256
Ghimire, G.	ANYL	500	Gilcris, K.H.	ANYL	517	Glen, R.C.	COMP	437
Ghobadi, S.	CATL	152	Gildersleeve, J.	CARB	53	Glennon, K.J.	NUCL	21
Ghobadi, S.	CATL	342	Gildner, B.	INOR	125	Glezakou, V.	CATL	9
Ghobrial, I.	POLY	87	Giles, D.K.	AGRO	315	Glezakou, V.	CATL	365
Ghogare, A.	ORGN	446	Giles, S.L.	COLL	729	Glezakou, V.	CATL	386
Ghoniem, A.	ENVR	744	Giles, S.L.	POLY	443	Glezakou, V.	CATL	469
Ghoreishi, D.	COMP	237	Giles, S.L.	POLY	553	Glezakou, V.	ENFL	80
Ghoreishi-Haack, N.	MEDI	276	Giljohann, D.	SCHB	16	Glezakou, V.	ENFL	498
Ghoroghchian, P.	POLY	87	Gill, S.	BIOL	200	Glick, D.	ENVR	805
Ghose, A.K.	MEDI	358	Gill, S.	COMP	565	Glick, G.D.	MEDI	3
Ghosh, S.	CARB	118	Gillan, M.	POLY	442	Glick, G.D.	MEDI	4
Ghosh, A.	ANYL	158	Gillard, B.M.	ORGN	396	Glinias, S.J.	CHED	409
Ghosh, A.	COLL	725	Gillard, B.M.	ORGN	397	Gloriozova, T.	MEDI	402
Ghosh, A.K.	MEDI	79	Gillard, M.	COLL	279	Glorius, F.	ORGN	326
Ghosh, G.	ORGN	446	Gillard, T.	ENFL	317	Glotzer, S.C.	PMSE	669
Ghosh, G.	ORGN	449	Gillet, V.J.	CINF	155	Glotzer, S.C.	POLY	547
Ghosh, P.	INOR	374	Gil Ley, A.	COMP	106	Glover, W.J.	COMP	512
Ghosh, S.	BIOL	193	Gilliard, R.J.	INOR	226	Glover, W.J.	PHYS	284
Ghosh, S.	MEDI	4	Gilliland, S.E.	CATL	152	Glueck, D.	INOR	677
Ghosh, S.	COMP	205	Gilliland, S.E.	CATL	342	Glueck, D.S.	INOR	27
Ghosh, S.	PHYS	404	Gillis, R.	ENFL	33	Glugla, D.	POLY	573
Ghosh, T.	PHYS	52	Gillis, R.	ENFL	97	Glusac, K.	ENFL	344
Ghoshal, D.	MPPG	44	Gillis, R.	ORGN	189	Glusac, K.	PHYS	156
Ghoshal, S.	ENVR	71	Gillun, M.	CHED	40	Gmitter, F.	AGFD	304
Ghoshal, S.	ENVR	358	Gilman, J.	COLL	797	Gmitter, F.	ANYL	147
Ghoshal, S.	ENVR	406	Gilman, J.	PMSE	271	Gnanakaran, S.	CARB	89
Ghoshal, S.	ENVR	728	Gilman, J.	PMSE	273	Gnann, A.	BIOL	194
Ghoshal, S.	ENVR	730	Gilmour, A.	ENVR	628	Gnann, A.	YCC	19
Ghoshal, S.	ENVR	775	Gilmour, R.	ORGN	390	Gnawali, G.R.	ORGN	148
Ghostlaw, T.	AGFD	125	Gil Pineda, L.I.	CHED	343	Goacher, R.E.	ANYL	150
Ghufran Rafique, M.	CATL	302	Gilson, M.K.	COMP	31	Gobet, M.	ENFL	517
Ghuge, R.B.	MEDI	126	Gilson, M.K.	COMP	34	Góbi, S.	PHYS	85
Ghuge, R.B.	MEDI	156	Gilson, M.K.	COMP	423	Gobler, C.	ENVR	310
Ghuman, G.	CHED	300	Gilyot, G.	ANYL	533	Gocal, G.	AGFD	342
Giacomini, D.	AGRO	100	Gimferrer, M.	ORGN	530	Godbey, J.A.	AGRO	109
Giacomini, D.	AGRO	103	Gin, D.L.	PMSE	5	Godbey, J.A.	AGRO	204
Giammanco, G.	INOR	536	Gin, D.L.	POLY	149	Goddard, J.M.	AGFD	289
Giammar, D.	ENVR	389	Gindulyte, A.	CHAS	37	Goddard, J.M.	PMSE	806
Giammar, D.	ENVR	539	Gindulyte, A.	CINF	38	Goddard, T.	BIOL	160
Giancarlo, L.C.	ANYL	111	Gindulyte, A.	CINF	79	Goddard, T.	ORGN	375
Giancaspro, J.	CHED	169	Gindulyte, A.	CINF	134	Goddard, W.A.	CATL	236
Giancola, J.	MEDI	139	Gindy, M.	COLL	169	Goddard, W.A.	CATL	367
Giangra, T.M.	ORGN	517	Gingras, M.	INOR	550	Goddard, W.A.	ENFL	119
Gianino, J.B.	ORGN	284	Ginsberg, L.	PHYS	99	Goddard, W.A.	ENFL	328
Giannakakis, G.	CATL	447	Ginsberg, N.S.	PHYS	99	Goddard, W.A.	INOR	668
Giannelis, E.P.	CELL	72	Ginzburg, A.	PHYS	46	Goddard, W.A.	INOR	683
Giannelis, E.P.	CHED	242	Ginzburg, A.	PHYS	562	Goddard, W.A.	INOR	689
Gianneschi, N.C.	COLL	8	Ginzburg, V.V.	PMSE	801	Goddard, W.A.	PHYS	184
Gianneschi, N.C.	COLL	389	Giokas, D.	ANYL	63	Goddeeris, M.	MEDI	410
Gianneschi, N.C.	COLL	597	Giordan, J.C.	BMGT	1	Godderis, L.	TOXI	24
Gianneschi, N.C.	PMSE	166	Giordan, J.C.	SCHB	10	Godeau, G.	PMSE	189
Gianopoulos, C.	ORGN	288	Giordan, J.C.	SCHB	22	Godeau, G.	PMSE	395
Gianotti, E.	CATL	84	Giordano, L.	ANYL	254	Godfrey, T.	PHYS	382
Giarrosso, A.	CHED	235	Giordano, L.	PHYS	60	Godula, K.	CARB	17
Giarrosso, A.	I&E	32	Giraldo, J.	ENFL	34	Godula, K.	CARB	80
Gibb, B.C.	ANYL	29	Giraldo, J.	ENVR	835	Godula, K.	CARB	121
Gibb, B.C.	ORGN	516	Girard, S.	INOR	249	Godwin, K.	CHED	252
Gibbons, S.	INOR	677	Girardon, M.	AGFD	230	Goedel, W.	COLL	93
Gibbons, S.K.	INOR	27	Giratallah, H.	MEDI	106	Goel, H.	ANYL	25
Gibbs, D.R.	BIOL	246	Girgis, H.S.	MEDI	325	Goel, H.	BIOL	48
Giblin, K.	COMP	532	Giri, D.	ANYL	218	Goepfert, A.	CATL	324
Gibson, J.K.	NUCL	52	Girolami, G.S.	HIST	12	Goepfert, A.	I&E	16
Gibson, J.K.	NUCL	53	Girolami, G.S.	HIST	20	Goerge, S.	ANYL	325

Goerl, K.A.	INOR	44	Goldzak, T.	COMP	292	Goodson, D.	PHYS	27
Goertz, D.	COLL	462	Goli, E.	POLY	434	Goodson, T.G.	PHYS	106
Goethe, O.	ORGN	646	Golikova, E.	COLL	296	Goodson, T.G.	PHYS	444
Goettel, J.T.	INOR	645	Golinec, A.	MEDI	238	Goodson, T.G.	PHYS	454
Goetz, A.W.	COMP	36	Gollakota, A.	I&EC	18	Goodson, T.G.	PHYS	456
Goetz, A.W.	COMP	176	Golovin, K.	PMSE	645	Goodwill, J.E.	ENVR	20
Goetz, A.W.	COMP	180	Golovko, M.	ENVR	111	Goodwin, A.P.	CATL	388
Goetz, A.W.	COMP	346	Golovko, S.	ENVR	111	Goodwin, A.P.	ENVR	820
Goetz, G.H.	MEDI	151	Golunski, S.	CATL	25	Goodwin, A.P.	POLY	54
Goff, N.	PHYS	9	Gomatam, R.	COMP	260	Goodwin, D.G.	ENVR	14
Goff, N.	PHYS	336	Gomes, A.F.	PMSE	680	Gooley, A.	ENVR	183
Goff, N.	PHYS	430	Gomes, C.M.	ANYL	225	Gooley, A.	PMSE	144
Goga, A.	ORGN	399	Gomes, D.	PMSE	812	Goossens, H.	PMSE	220
Gogonea, V.	MEDI	434	Gomes, G.	COMP	229	Goossens, H.	POLY	201
Gogotsi, N.	ENFL	332	Gomes, G.	ORGN	195	Goossens, H.	POLY	202
Gogotsi, Y.	ANYL	298	Gomes, V.	PHYS	433	Goossens, J.	PMSE	220
Gogotsi, Y.	COLL	92	Gomez, A.	CATL	173	Gopalakrishnan, S.	COLL	222
Gogotsi, Y.	COLL	685	Gomez, S.	POLY	7	Gopalakrishnan, S.	COLL	483
Gogotsi, Y.	ENFL	38	Gomez Bombarelli, R.	COMP	100	Gopalakrishnan, S.	PMSE	561
Gogotsi, Y.	ENFL	83	Goncalves, A.A.	I&EC	51	Gopalan, S.	ENVR	337
Gogotsi, Y.	ENFL	170	Goncalves, A.	CARB	95	Gopeesingh, J.	CATL	404
Gogotsi, Y.	PHYS	21	Goncalves, D.	AGFD	252	Gora, S.L.	ENVR	763
Goguria, N.	COLL	637	Goncalves, R.	COMP	327	Gordon, I.	PHYS	309
Goh, C.	INOR	709	Goncalves, R.	POLY	125	Gordon, J.C.	ENFL	558
Goh, C.	POLY	313	Goncalves, R.	POLY	461	Gordon, J.C.	MEDI	65
Goh, G.	COMP	94	Goncalves, F.	BIOL	56	Gordon, J.C.	MEDI	106
Goh, J.	INOR	175	Goncalves, F.	COLL	570	Gordon, K.L.	PMSE	773
Goh, M.	COLL	175	Gong, J.	ENVR	298	Gordon, K.	ENVR	330
Goh, M.	COLL	219	Gong, K.	COLL	630	Gordon, M.S.	COMP	158
Goh, M.	COLL	263	Gong, S.	CHED	19	Gordon, M.J.	CATL	294
Goh, M.	COLL	307	Gong, W.	MEDI	333	Gordon, P.	CHED	52
Goh, M.	COLL	310	Gong, W.	MEDI	359	Gordon, R.G.	PMSE	431
Goh, S.L.	CHED	75	Gong, X.	PMSE	431	Gordon, W.O.	COLL	336
Goh, S.L.	INOR	709	Gong, X.	ENVR	239	Gore, A.	AGRO	7
Goh, S.L.	POLY	313	Gong, X.	CATL	354	Gorecki, J.	COLL	278
Goh, Y.	CELL	50	Gong, X.	COMP	178	Gorey, T.J.	ANYL	81
Gohberg, D.	PHYS	35	Gong, X.	COMP	561	Gorfe, A.	COMP	566
Gohlke, H.	COMP	146	Gong, X.	COLL	170	Gorham, J.M.	COLL	797
Gohn, A.M.	PMSE	66	Gong, X.	COLL	286	Gorham, J.M.	ENVR	14
Gohn, A.M.	POLY	167	Gong, X.	COLL	668	Gorham, J.M.	ENVR	359
Gohre, K.	AGRO	198	Gong, Y.	AGFD	200	Gorin, D.J.	BIOL	309
Gohre, K.	AGRO	203	Gonil, P.	POLY	522	Gorin, D.J.	ORGN	399
Going, C.C.	MEDI	94	Gonzales, B.	ANYL	392	Gorin, D.J.	ORGN	619
Gokalp, S.	COLL	484	Gonzalez, A.	AGFD	147	Goriparti, S.	PRES	31
Goker, S.	PMSE	540	Gonzalez, A.	CHED	347	Gorka, D.E.	ENVR	359
Golagana, S.	ENVR	806	Gonzalez, F.	BIOL	61	Gorka, M.	PHYS	468
Golaraei, A.	ANYL	449	Gonzalez, J.	BIOL	38	Gorodetsky, A.A.	COMP	51
Golbeck, J.	PHYS	468	Gonzalez, J.	MEDI	132	Gorre, V.	ORGN	565
Gold, B.	MEDI	116	Gonzalez, J.M.	ENVR	612	Gorski, A.	ENVR	530
Gold, B.	MEDI	122	Gonzalez, L.	COMP	253	Gorski, C.	GEOC	44
Gold, B.	ORGN	247	Gonzalez, L.	CHED	170	Gorski, J.	MEDI	311
Goldade, D.A.	AGRO	83	Gonzalez, L.	I&EC	13	Gorun, S.M.	INOR	675
Goldberg, F.	ORGN	549	González, F.A.	CHED	270	Gosavi, P.	BIOL	85
Goldberg, J.M.	INOR	765	González, F.A.	CHED	343	Goseki, R.	POLY	76
Goldberg, J.M.	ORGN	443	Gonzalez-Fajardo, L.	PMSE	747	Goseki, R.	POLY	416
Goldberg, J.M.	INOR	668	Gonzalez-Fajardo, L.	POLY	423	Goseki, R.	POLY	417
Goldberg, K.I.	INOR	277	Gonzalez-Bello, C.	MEDI	324	Gossage, Z.	ANYL	384
Goldberg, K.	CINF	169	González-Delgado, J.	INOR	547	Gossage, Z.	PMSE	175
Goldberg, M.	COLL	127	Gonzalez Estrella, J.	GEOC	67	Gossel, G.	PHYS	69
Goldberg Cavalleri, A.	AGRO	71	González-Fernández, D.	POLY	380	Gosselin, E.	INOR	229
Goldberger, J.E.	ANYL	333	González León, R.A.	CHED	286	Gosselin, E.	INOR	626
Goldberger, J.E.	ENFL	62	González Maglio, D.	AGFD	166	Gosselin, F.	ORGN	149
Golden, B.	CHED	64	Gonzalez Martinez, C.	AGFD	97	Gosselin, F.	ORGN	489
Golden, M.	INOR	120	Gonzalez Moya, J.R.	ENVR	764	Gosselink, R.	CATL	104
Golden, M.	INOR	302	Gonzalez Pech, N.I.	COLL	177	Goswami, K.	CATL	332
Goldenblatt, P.	MEDI	342	Gonzalez Pech, N.I.	ENVR	157	Goswami, O.	ENVR	95
Golder, M.	PMSE	375	Gonzalez Pech, N.I.	ENVR	716	Gosztola, D.J.	ANYL	297
Golder, M.	POLY	34	Gonzalez Pineiro, A.M.	CHED	258	Goto, K.	ORGN	650
Goldfarb, J.L.	ENVR	166	Gonzalez-Quiroga, A.	ENFL	423	Goto, M.	COLL	543
Goldfarb, J.L.	ENVR	227	Gonzalez-Rodríguez, R.	COLL	452	Goto, M.	ORGN	650
Goldfarb, J.L.	ENVR	291	González-Sarriás, A.	AGFD	280	Gotoh, H.	INOR	164
Goldfarb, J.L.	ENVR	371	Gonzalez-Vazquez, A.	PHYS	15	Gottesburen, B.	AGRO	51
Goldfarb, J.L.	ENVR	558	Gonzalez-Vazquez, J.	PHYS	257	Goudreau Collison, T.G.	CHED	397
Goldfarb, J.L.	ENVR	559	Gonzalo, E.C.	ENFL	463	Goulart, J.	CATL	470
Goldfarb, J.L.	ENVR	800	Goodchild, S.J.	MEDI	333	Gould, A.D.	POLY	346
Goldfarb, J.L.	ENVR	805	Goode, A.	TOXI	12	Goulet Fortin, J.	AGRO	51
Goldman, A.S.	INOR	3	Goodis, M.	AGRO	191	Goumans, F.	PHYS	230
Goldman, A.S.	INOR	280	Goodlett, D.R.	ENFL	534	Goundry, W.R.	ORGN	488
Goldman, A.S.	INOR	345	Goodling, A.	COLL	73	Gouverneur, V.	ORGN	357
Goldman, E.W.	ORGN	411	Goodman, E.D.	CATL	11	Gouverneur, V.	ORGN	358
Goldman, N.	COMP	504	Goodman, E.D.	CATL	62	Govea, C.	COMP	390
Goldman, N.	PHYS	308	Goodman, E.D.	CATL	377	Govedarica, A.	COLL	10
Goldman, T.M.	PMSE	171	Goodman, E.D.	COLL	371	Govedarica, A.	COLL	15
Goldsmith, C.R.	INOR	30	Goodman, J.M.	CINF	10	Goverapet Srinivasan, S.	COMP	40
Goldsmith, F.	CATL	154	Goodman, J.M.	COMP	506	Govind, N.	COMP	205
Goldsmith, F.	PHYS	292	Goodman, J.M.	ORGN	438	Govindan, M.	ENVR	504
Goldsmith, M.R.	MEDI	196	Goodman, J.M.	ORGN	439	Govindan, M.	ENVR	714
Goldsmith, R.H.	ANYL	21	Goodman, K.	ANYL	83	Govindarajan, N.	COMP	481
Goldsmith, R.H.	PHYS	359	Goodman, K.	CATL	252	Govindaswamy, V.	PROF	26
Goldsmith, Z.	CATL	456	Goodman, M.	COLL	384	Govind Rajan, A.	COLL	577
Goldstein, S.R.	ORGN	632	Goodman, M.F.	BIOL	298	Govind Rajan, A.	COMP	418
Goldstein, S.	PMSE	207	Goodman, P.A.	POLY	256	Govindwar, S.	ENVR	174
Goldstone, J.	POLY	36	Goodsell, J.	BIOL	305	Govindwar, S.P.	GEOC	68

Govor, E.V.	INOR	430	Gray, M.L.	ENVR	107	Griffen, E.J.	MEDI	17
Govorov, A.	COLL	31	Gray, M.A.	CARB	108	Griffin, J.	ANYL	538
Gowda, A.	INOR	105	Gray, M.	CATL	402	Griffin, J.	ENVR	249
Goyal, A.	PMSE	534	Gray, P.J.	ENVR	289	Griffin, J.	ORGN	503
Goyal, A.	ENFL	448	Gray, S.K.	PHYS	356	Griffin, M.	CATL	165
Goyal, S.	COMP	578	Gray, T.	PRES	20	Griffin, M.	CATL	168
Goyal, S.	COMP	582	Grayer, S.C.	BIOL	306	Griffin, M.	CATL	361
Graber, R.W.	AGRO	54	Grayson, S.M.	ANYL	474	Griffin, S.	ANYL	39
Grabill, L.	COMP	581	Grayson, S.M.	PMSE	393	Griffin, S.	ANYL	504
Gracia Espino, E.	CATL	315	Grayson, S.M.	POLY	270	Griffin-Blake, T.	CHED	392
Gracias, D.H.	ANYL	271	Grazon, C.	COLL	524	Griffith, L.	PMSE	339
Gracias, D.H.	COLL	612	Grazon, C.	POLY	419	Griffiths, D.A.	ENVR	821
Graef, J.	MEDI	50	Greathouse, J.A.	CATL	94	Griggs, C.S.	ENVR	476
Graefe, C.T.	ANYL	403	Greathouse, J.A.	GEOC	22	Griggs, N.W.	MEDI	290
Graetzel, M.	COMP	520	Greathouse, J.A.	GEOC	24	Grigolo, T.A.	PMSE	46
Graetzel, M.	ENFL	542	Grebe, V.	COLL	506	Grigolo, T.A.	PMSE	442
Gräfe, S.	PHYS	207	Greca, L.	CELL	26	Grillo, F.	COLL	149
Graf Stillfried, D.	ANYL	304	Greco, C.	PMSE	622	Grills, D.C.	CATL	189
Graf Stillfried, D.	PHYS	507	Greco, K.	ENFL	275	Grim, J.C.	PMSE	169
Grafton, A.B.	PHYS	381	Gredicak, M.	ORGN	481	Grimes, C.L.	CARB	72
Grafton, A.B.	PHYS	397	Green, A.	COLL	602	Grimes, C.L.	CARB	106
Graham, A.	POLY	530	Green, A.	CHED	115	Grimes, C.L.	CARB	111
Graham, B.	POLY	27	Green, B.	AGRO	98	Grimes, C.L.	INOR	567
Graham, B.	POLY	484	Green, J.R.	PHYS	77	Grimm-Lebsanft, B.	INOR	234
Graham, B.	ENFL	359	Green, J.R.	PHYS	180	Grimwood, M.E.	INOR	333
Graham, B.	MEDI	122	Green, J.R.	PHYS	569	Grimwood, M.E.	MEDI	359
Graham, D.	ENVR	415	Green, K.N.	INOR	574	Grinberg Dana, A.	ORGN	189
Graham, D.	MEDI	303	Green, L.	TOXI	69	Grinstaff, M.W.	ANYL	122
Graham, D.	ENVR	392	Green, M.	POLY	486	Grinstaff, M.W.	BIOL	46
Graham, E.	CHED	326	Green, M.J.	CELL	55	Grinstaff, M.W.	BIOL	287
Graham, E.	PMSE	766	Green, M.J.	CELL	56	Grinstaff, M.W.	COLL	144
Graham, G.W.	CATL	69	Green, M.J.	COLL	114	Grinstaff, M.W.	COLL	271
Graham, S.M.	CARB	32	Green, S.J.	MEDI	330	Grinstaff, M.W.	COLL	299
Graham, T.	GEOC	46	Green, T.J.	INOR	247	Grinstaff, M.W.	COLL	524
Grajeda, J.	INOR	401	Green, T.	PROF	46	Grinstaff, M.W.	COLL	778
Grambow, B.	GEOC	54	Green, W.H.	CINF	166	Grinstaff, M.W.	ENFL	30
Grambow, B.	NUCL	41	Green, W.H.	CINF	168	Grinstaff, M.W.	ENFL	556
Grambow, C.	PHYS	575	Green, W.H.	COMP	317	Grinstaff, M.W.	MEDI	110
Gramlich, W.	POLY	533	Green, W.H.	COMP	497	Grinstaff, M.W.	PMSE	51
Granados Facil, S.	ENVR	25	Green, W.H.	COMSCI	7	Grinstaff, M.W.	PMSE	421
Granberg, K.L.	ORGN	207	Green, W.H.	ENFL	33	Grinstaff, M.W.	PMSE	424
Grand, M.	ANYL	287	Green, W.H.	ENFL	97	Grinstaff, M.W.	PMSE	477
Grandbois, M.	PROF	15	Green, W.H.	ORGN	189	Grinstaff, M.W.	PMSE	480
Grandbois, M.	YCC	3	Green, W.H.	PHYS	229	Grinstaff, M.W.	PMSE	631
Grande, D.	PMSE	280	Green, W.H.	PHYS	438	Grinstaff, M.W.	PMSE	687
Grandits, M.	COMP	155	Green, W.H.	PHYS	467	Grinstaff, M.W.	PMSE	784
Granite, E.J.	ENVR	106	Green, W.H.	PHYS	574	Grinstaff, M.W.	PMSE	814
Granskog, V.	PMSE	621	Green, W.H.	PHYS	575	Grinstaff, M.W.	POLY	89
Granskog, V.	PMSE	724	Green, W.H.	PHYS	233	Grinstaff, M.W.	POLY	93
Grant, C.S.	PROF	1	Greenbaum, S.G.	ENFL	517	Grinstaff, M.W.	POLY	94
Grant, K.J.	CHED	57	Greenbaum, S.G.	ENFL	518	Grinstaff, M.W.	POLY	183
Grant, K.J.	CHED	99	Greenbaum, S.G.	PMSE	67	Grinstaff, M.W.	POLY	339
Grant, S.	AGRO	79	Greenberg, A.	HIST	15	Grinstaff, M.W.	POLY	419
Grant, S.	AGRO	92	Greene, B.D.	CHED	257	Grinstaff, M.W.	POLY	430
Grant, S.	AGRO	317	Greene, B.L.	BIOL	285	Grinstaff, M.W.	TOXI	94
Grant, T.	PMSE	518	Greene, W.	COLL	342	Grisoni, F.	CINF	25
Grantz, E.	AGRO	45	Greenlee, L.F.	CATL	495	Grisson, T.	INOR	372
Grantz, E.	AGRO	324	Greenlee, L.F.	ENFL	117	Griswold, J.	NUCL	4
Grantz, E.M.	AGRO	15	Greenlee, L.F.	ENFL	372	Griswold, J.	NUCL	6
Granvogl, M.	AGFD	271	Greenough, J.	INOR	157	Griswold, J.	NUCL	9
Granzin, J.	COMP	146	Greenway, F.	ENVR	303	Grivé, M.	NUCL	26
Grapperhaus, C.A.	INOR	495	Greer, A.	ORGN	444	Grivé, M.	NUCL	30
Grapperhaus, C.A.	INOR	503	Greer, A.	ORGN	445	Groden, K.	CATL	296
Grapperhaus, C.A.	INOR	510	Greer, A.	ORGN	446	Grodzinsky, A.	COLL	701
Grassi, K.	AGFD	11	Greer, A.	ORGN	448	Groehler, A.	TOXI	78
Grassian, V.H.	CATL	49	Greer, A.	ORGN	449	Groenhof, G.	PHYS	375
Grassian, V.H.	COLL	177	Greer, E.	ORGN	445	Grogan, G.	CATL	105
Grassian, V.H.	COLL	557	Greer, E.	ORGN	454	Grogan, G.	CATL	159
Grassian, V.H.	ENVR	157	Greer, H.	COLL	528	Groh, M.	INOR	14
Grassian, V.H.	ENVR	716	Greg, D.	I&E	48	Gröhn, F.	PMSE	314
Grassl, B.	POLY	173	Gregersen, Ø.W.	PMSE	546	Gronowski, M.	PHYS	251
Grassl, B.	POLY	277	Gregoratti, L.	CATL	16	Grorud, A.P.	INOR	469
Grassl, B.	POLY	298	Gregory, S.T.	MEDI	102	Gröschel, A.	POLY	278
Grasso, M.	ANYL	173	Grell, T.A.	BIOL	289	Gross, A.D.	AGRO	153
Graton, J.	AGRO	308	Grembecka, J.	MEDI	84	Gross, A.D.	AGRO	311
Grattoni, A.	COLL	436	Grenier, D.	MEDI	184	Gross, A.	PHYS	285
Graupner, P.	ORGN	83	Grenier, M.C.	MEDI	80	Gross, D.S.	CHED	117
Graus-Porta, D.	MEDI	20	Grønning, A.J.	ORGN	236	Gross, D.S.	CHED	132
Gravatt, C.S.	ORGN	29	Grønning, A.J.	ORGN	318	Gross, D.E.	INOR	318
Graverson, C.	COLL	281	Grønning, A.J.	ORGN	337	Gross, R.A.	POLY	208
Graves, C.R.	INOR	147	Grønning, A.J.	ORGN	614	Grossman, J.C.	PHYS	549
Graves, C.R.	INOR	506	Gregioni, F.	ENVR	451	Grossoehme, J.	INOR	308
Gravina Ricci, C.	COMP	265	Greshock, T.J.	MEDI	279	Grossoehme, J.	PMSE	433
Gravina Ricci, C.	COMP	543	Greshock, T.J.	ORGN	41	Grossoehme, J.	PMSE	556
Gray, B.	CHED	365	Gresil, M.	POLY	52	Grossoehme, J.	PMSE	719
Gray, D.L.	MEDI	316	Greszler, S.N.	ORGN	478	Grossoehme, J.	PMSE	780
Gray, D.	ENVR	361	Grethe, G.	CINF	10	Grossoehme, N.E.	CHED	200
Gray, E.	ANYL	234	Grew, K.N.	MPPG	15	Groteklaes, M.	CHED	374
Gray, H.B.	INOR	67	Grewal, G.	MEDI	83	Grotjahn, D.B.	INOR	712
Gray, H.B.	INOR	254	Grice, K.A.	INOR	345	Groves, J.T.	ENFL	378
Gray, H.B.	INOR	334	Grieger, K.D.	ORGN	567	Groves, J.T.	INOR	668
Gray, J.	CHED	255	Grier, T.	PMSE	629	Grubbs, R.B.	PMSE	564
Gray, K.	AGRO	94	Griffen, E.J.	COMP	111	Grubbs, R.B.	POLY	601

Grubbs, R.H.	ENVR	670	Guardian, M.E.	AGRO	323	Guo, H.	AGFD	194
Grubbs, R.H.	INOR	95	Guchhait, S.	MEDI	216	Guo, H.	CATL	406
Grubbs, R.H.	INOR	400	Guchhait, S.	ORGN	286	Guo, H.	INOR	581
Grubbs, R.H.	ORGN	280	Gudavalli, R.K.	NUCL	37	Guo, H.	COLL	745
Grubbs, R.H.	PMSE	610	Gudeangadi, P.G.	POLY	86	Guo, H.	AGFD	154
Grubbs, R.H.	POLY	593	Gudiyella, S.	PHYS	574	Guo, I.W.	COLL	29
Grübel, M.	ORGN	168	Guenthner, A.J.	INOR	303	Guo, I.W.	COLL	182
Grübel, M.	ORGN	170	Guernon, J.	MEDI	51	Guo, J.	ENVR	453
Grudpan, K.	CHED	371	Guerra, C.	COMP	290	Guo, J.	GEOC	30
Grudpan, K.	CHED	384	Guerra, C.	ORGN	243	Guo, J.	MEDI	56
Gruebele, M.	BIOL	128	Guerra, J.	ORGN	442	Guo, K.	ENVR	349
Gruebele, M.	BIOL	175	Guerra, P.	ENVR	303	Guo, K.	ENVR	760
Gruebele, M.	PHYS	143	Guerre, M.	POLY	114	Guo, L.	ANYL	208
Grulke, C.	AGRO	19	Guerrero, D.	COLL	468	Guo, L.	ENVR	60
Grulke, C.	AGRO	29	Guerrero, F.D.	AGRO	149	Guo, L.	TOXI	103
Grulke, C.	ANYL	100	Guerrero-Sánchez, C.	POLY	310	Guo, M.	PHYS	108
Grulke, C.	CINF	32	Guerrette, J.P.	ORGN	487	Guo, M.	ENFL	56
Grulke, C.	ENVR	115	Guest, J.	ENFL	479	Guo, M.	ANYL	507
Grulke, C.	ENVR	164	Guevara, M.W.	AGRO	353	Guo, M.	CATL	402
Grunden, A.	ENVR	323	Gug, J.	PMSE	701	Guo, Q.	MEDI	108
Grunden, A.	ENVR	700	Gugler, S.O.	COMP	261	Guo, Q.	MEDI	322
Grundy, J.	ENVR	288	Guha, R.	CINF	121	Guo, Q.	ORGN	422
Grunenwald, M.	AGRO	92	Guha, R.	CINF	142	Guo, R.	PMSE	6
Grunenwald, M.	AGRO	93	Guha, R.	COMP	530	Guo, R.	AGFD	71
Gruner, S.M.	PMSE	585	Guha, R.	ORGN	204	Guo, S.	ENVR	455
Grunlan, J.C.	CELL	28	Guichard, S.	MEDI	70	Guo, S.	CATL	429
Grunlan, J.C.	PMSE	543	Guidolin, V.	TOXI	56	Guo, S.	COLL	501
Grunlan, J.C.	PMSE	730	Guidolin, V.	TOXI	77	Guo, S.	ENFL	125
Grunlan, J.C.	POLY	168	Guija, S.	COMP	210	Guo, S.	MPPG	10
Grunlan, M.	PMSE	598	Guilbaud, J.	INOR	619	Guo, S.	PMSE	691
Grunlan, M.	PMSE	656	Guilhaume, N.	CATL	464	Guo, S.	PMSE	808
Grunlan, M.	POLY	119	Guillaume, S.	PMSE	61	Guo, S.	ORGN	349
Gruszkiewicz, M.	GEOC	46	Guillaumont, D.	NUCL	54	Guo, T.	ENVR	17
Gryka, M.	AGFD	169	Guillemin, J.	PHYS	372	Guo, X.	AGFD	71
Grzesiak, A.	COLL	479	Guillemin, J.	PHYS	487	Guo, X.	ORGN	23
Grzincic, E.	TOXI	90	Guillemin, J.	PHYS	558	Guo, X.	ENFL	535
Grzybowski, B.	CINF	39	Guillon, C.D.	MEDI	171	Guo, X.	INOR	240
Grzybowski, B.	CINF	145	Guin, T.	POLY	168	Guo, X.	ENVR	156
Grzybowski, B.	COMP	306	Guiraud, S.	MEDI	289	Guo, X.	PMSE	397
Grzybowski, B.	COMSCI	5	Guiry, P.	ORGN	307	Guo, X.	PMSE	470
Grzymiski, K.	CHED	222	Guiton, B.S.	CATL	32	Guo, Y.	CATL	256
Gschwandi, M.	PMSE	772	Guittard, F.	PMSE	189	Guo, Y.	ENVR	534
Gu, B.	PHYS	177	Guittard, F.	PMSE	395	Guo, Y.	ENFL	521
Gu, C.	MEDI	19	Gukasyan, H.	MEDI	282	Guo, Y.	ENVR	456
Gu, H.	BIOL	33	Gul, S.	PHYS	58	Guo, Y.	PMSE	265
Gu, H.	BIOL	193	Gulacar, O.	CHED	372	Guo, Z.	CARB	92
Gu, H.	ORGN	387	Guldin, S.	INOR	241	Guo, Z.	I&EC	42
Gu, H.	CATL	208	Gulgunje, P.	PMSE	18	Guo, Z.	POLY	220
Gu, J.	ANYL	390	Gull, T.	PHYS	195	Guo, Z.	POLY	240
Gu, J.	POLY	281	Gumbart, J.	COMP	145	Guoqiang, S.	CATL	284
Gu, J.	AGRO	162	Gumbart, J.	COMP	435	Gupta, A.	COLL	193
Gu, J.	ENVR	126	Gumbleton, M.	POLY	230	Gupta, A.	COLL	297
Gu, J.	ANYL	420	Gunaje, J.	BIOL	229	Gupta, A.	COLL	689
Gu, J.	ENFL	216	Gunasekera, H.	ANYL	438	Gupta, A.	COLL	695
Gu, J.	ENFL	512	Gunathunge, C.	ANYL	303	Gupta, A.	COLL	766
Gu, J.	MEDI	281	Gunathunge, C.	CATL	196	Gupta, A.	PMSE	413
Gu, K.	POLY	514	Gunawan, I.	CHED	346	Gupta, A.	POLY	379
Gu, M.	ENVR	412	Gunawan, I.	MEDI	397	Gupta, A.	INOR	495
Gu, S.	INOR	689	Gunawardhana, R.	POLY	347	Gupta, A.K.	COMP	566
Gu, X.	PMSE	264	Günay, K.A.	POLY	25	Gupta, A.	ANYL	341
Gu, X.	POLY	514	Gunaydin, H.	COMP	488	Gupta, A.	ANYL	343
Gu, Y.	ANYL	395	Gundlach, L.	COLL	35	Gupta, A.	INOR	461
Gu, Y.	PMSE	611	Gundlach, L.	PHYS	449	Gupta, D.	COLL	186
Gu, Y.	POLY	142	Gundlach, L.	PHYS	490	Gupta, D.	ENFL	462
Gu, Y.	POLY	156	Gunduz, S.	ENFL	116	Gupta, G.	INOR	495
Gu, Y.	POLY	240	Gung, B.	ORGN	98	Gupta, J.	PMSE	269
Gu, Y.	INOR	124	Gunn, J.	MEDI	247	Gupta, M.	COLL	319
Gu, Z.	COLL	139	Gunnoe, T.	ENFL	118	Gupta, M.	COLL	749
Gu, Z.	AGFD	264	Gunnoe, T.	INOR	19	Gupta, M.	PMSE	279
Gu, Z.	ANYL	307	Gunnoe, T.	INOR	683	Gupta, M.	POLY	259
Gu, Z.	COLL	122	Gunnoe, T.	INOR	689	Gupta, M.	MEDI	129
Gu, Z.	INOR	531	Gunnoe, T.B.	INOR	20	Gupta, R.	ENFL	240
Gu, Z.	ANYL	235	Gunnoe, T.B.	INOR	668	Gupta, R.	ENFL	241
Gu, Z.	ENFL	158	Gunsch, C.K.	ENVR	322	Gupta, R.	ENFL	242
Gu, Z.	INOR	659	Gunthardt, C.E.	PHYS	470	Gupta, S.	ORGN	570
Gual, A.	CATL	128	Gunthardt, C.E.	PHYS	538	Gupta, T.	MPPG	44
Guan, B.	ANYL	521	Günther, J.	COLL	490	Gupta, V.	MEDI	182
Guan, N.	COMP	318	Guo, H.	CATL	153	Gupton, F.	CATL	152
Guan, P.	COLL	468	Guo, Z.	POLY	539	Gupton, F.	CATL	342
Guan, R.	AGFD	281	Guo, A.	CINF	133	Gupton, J.T.	ORGN	411
Guan, S.	BIOL	49	Guo, B.	MEDI	391	Gurale, B.	CARB	26
Guan, V.	BIOL	129	Guo, C.	ENVR	587	Gurau, G.	COLL	9
Guan, X.	ENVR	585	Guo, C.	ENVR	693	Gurchiek, J.	PHYS	511
Guan, X.	ANYL	263	Guo, C.	ENVR	762	Gurkan, B.	ENFL	172
Guan, X.	I&EC	35	Guo, C.	PMSE	726	Gurney, R.	CHED	365
Guan, Y.	CHED	298	Guo, C.	ENVR	673	Gursel, S.	ENFL	409
Guan, Y.	ORGN	109	Guo, C.	BIOL	79	Gursky, O.	COLL	433
Guan, Y.	ORGN	354	Guo, C.	ANYL	544	Gurung, L.	ENFL	70
Guan, Z.	PMSE	88	Guo, D.	COMP	291	Gurung, R.	AGRO	85
Guan, Z.	POLY	56	Guo, D.	POLY	617	Gurung, S.	ENVR	533
Guan, Z.	POLY	620	Guo, F.	ENVR	211	Gurung, S.	ENVR	551
Guan, Z.	MEDI	174	Guo, F.	AGFD	268	Guruparan, A.A.	ORGN	346
Guang, X.	CATL	355	Guo, H.	PHYS	172	Gururajan, G.	PMSE	689

Gurvich, V.	TOXI	12	Hadt, R.G.	PHYS	161	Hall, M.	ORGN	521
Gusa, A.	ENVR	501	Hadziselimovic, D.	ANYL	530	Hall, M.	ORGN	591
Gushgari, A.	ENVR	516	Haes, A.J.	COLL	633	Hall, M.B.	COMP	473
Gushgari, A.	ENVR	784	Hafenstine, G.	CATL	388	Hall, M.B.	INOR	374
Gust, K.A.	TOXI	44	Haferkamp, S.	ORGN	215	Hall, M.L.	COMP	187
Gustafsson, T.	BIOL	314	Hafey, M.	MEDI	311	Hall, M.G.	POLY	556
Gustavsson, A.	ANYL	320	Hafez, A.	ENFL	84	Hall, R.	BIOL	89
Gutekunst, W.R.	POLY	266	Hafner, S.C.	AGRO	229	Hall, S.D.	ANYL	517
Guterman, R.	PMSE	600	Hafner, S.C.	AGRO	230	Hall, T.	AGRO	20
Gutgesell, L.	MEDI	294	Hafner, S.C.	AGRO	333	Hall, T.	AGRO	23
Guthrie, B.D.	AGFD	214	Hagan, J.	ANYL	409	Hall, T.	AGRO	24
Gutierrez, G.D.	ENVR	549	Hagelin-Weaver, H.	CATL	243	Hall, W.A.	AGRO	254
Gutierrez, K.	INOR	43	Hagen, D.	POLY	168	Hallac, B.	CATL	468
Gutierrez, M.	PHYS	41	Hagerman, M.E.	INOR	671	Hallak, D.	CHED	151
Gutiérrez, O.Y.	CATL	8	Haggag, O.	PHYS	325	Haller, G.L.	ENVR	109
Gutiérrez, O.Y.	CATL	100	Haghighatdari, M.	COMP	300	Hallin, J.	MEDI	144
Gutiérrez, O.Y.	CATL	102	Haghighat-Shishavan, S.	ENFL	227	Hallows, W.	CATL	160
Gutiérrez, O.Y.	CATL	365	Haghighi, S.	INOR	171	Halmi, T.A.	CHED	11
Gutiérrez, O.Y.	CATL	396	Haghighi, S.	INOR	443	Halperin, A.	COLL	646
Gutiérrez, O.Y.	ENFL	461	Hahm, H.	ORGN	137	Halvorsen, G.	ORGN	478
Gutiérrez-Aguilar, R.	CHED	289	Hahm, J.	INOR	206	Halvorsen, K.	BIOL	256
Gutierrez-Bonet, A.	WCC	4	Hahn, C.	CATL	36	Halvorsen, K.	PMSE	754
Gutiérrez Núñez, D.V.	ANYL	134	Hahn, D.	AGRO	178	Hamad, W.Y.	CELL	69
Gutierrez-Portocarrero, S.	ANYL	437	Hahn, N.	ENFL	204	Hamad, W.Y.	CELL	77
Gutierrez Tinoco, O.Y.	ENFL	501	Hahn, N.	ENFL	205	Hamad-Schifferli, K.	ANYL	14
Gutleber, K.	CHED	64	Hahn, N.	ENFL	471	Hamad-Schifferli, K.	ANYL	64
Gutmann, J.S.	PMSE	593	Hahn, R.	AGFD	250	Hamad-Schifferli, K.	COLL	429
Gutsev, L.	COLL	44	Hahn, S.J.	MEDI	425	Hamad-Schifferli, K.	COLL	565
Guttikonda, P.	COMP	342	Hahn, S.J.	MEDI	426	Hamad-Schifferli, K.	COLL	604
Guttman, A.	ORGN	181	Hahn, W.C.	BIOL	200	Hamamoto, S.	ENVR	733
Guvench, O.	COMP	330	Hai, L.	I&E	54	Hamann, C.	COMP	318
Guver, A.	INOR	99	Haibach, M.C.	ENVR	670	Hamann, C.	PROF	49
Guyett, P.	CHED	257	Haider, B.	INOR	489	Hamano, Y.	AGFD	10
Guyman, A.	PMSE	369	Haider, K.	COMP	31	Hamby, K.A.	AGRO	177
Guyot-Sionnest, P.	COLL	374	Haider, M.	CATL	255	Hamdi, J.	INOR	465
Guzi, T.	MEDI	342	Haiges, R.M.	ORGN	190	Hamed, A.	COMP	115
Guzman, I.	BIOL	175	Haiges, R.M.	PHYS	5	Hamedani, Y.	COLL	164
Guzman, J.	COLL	720	Hailili, R.	ENFL	389	Hameed, Y.	INOR	233
Guzman, J.	PMSE	729	Hailili, R.	ENVR	63	Hamel, E.	MEDI	97
Guzman, M.	MEDI	75	Hailong, H.	CELL	74	Hamel, E.	MEDI	98
Guzman, P.	COLL	564	Hailong, H.	COLL	470	Hamel, E.	MEDI	99
Guzman De Villoria, R.	COLL	42	Haines, T.	CATL	319	Hamel, J.	ENFL	94
Gwak, J.	INOR	625	Haines, T.	CHED	329	Hamelberg, D.	COMP	269
Gyawali, G.	COMP	382	Hait, D.	COMP	169	Hamelberg, D.	COMP	546
Gyawali, R.	AGFD	133	Hait, D.	COMP	552	Hammers, R.J.	ANYL	444
Gyawali, R.	AGFD	134	Hajdin, C.	COMP	189	Hammers, R.J.	COLL	632
Gygi, D.	INOR	114	Hajjo, R.	CINF	120	Hammers, R.J.	COLL	677
Gyimóthy, B.	ORGN	576	Hajkowski, S.	CINF	20	Hammers, R.J.	ENVR	267
Ha, H.	PMSE	642	Håkansson, J.	PMSE	724	Hammers, R.J.	ENVR	543
Ha, H.	CATL	325	Hakey, B.M.	INOR	509	Hamid, H.	ENVR	501
Ha, H.	CATL	459	Hakk, H.	AGRO	295	Hamid, S.	ENVR	28
Ha, J.	MEDI	152	Hakk, H.	AGRO	329	Hamid, S.	ENVR	603
Ha, N.	COLL	221	Hakkarainen, M.	CELL	46	Hamid, S.	ENVR	806
Ha, Q.	ENVR	558	Hakkarainen, M.	PMSE	644	Hamilton, G.	MEDI	140
Ha, Q.	ENVR	800	Haky, J.E.	PMSE	445	Hamilton, J.	INOR	731
Ha, S.	PHYS	414	Halaoui, L.I.	ENFL	23	Hamilton, N.	CINF	6
Ha, U.	PMSE	118	Halaoui, L.I.	INOR	173	Hamilton, S.K.	PMSE	338
Haagenson, D.C.	CHED	63	Halas, N.J.	COLL	27	Hamilton, S.K.	PMSE	418
Haam, S.	COLL	530	Halas, N.J.	COLL	436	Hamilton, T.D.	ORGN	208
Haam, S.	INOR	720	Halas, N.J.	MPPG	101	Hamlin, J.L.	AGRO	46
Haam, S.	PMSE	682	Halaszynski, N.	PMSE	52	Hamm, M.	BIOL	185
Haas, B.L.	CHED	210	Halden, R.	ENVR	516	Hamm, M.	BIOL	294
Haas, B.L.	CHED	388	Halden, R.	ENVR	784	Hammer, M.	PHYS	207
Haas, K.L.	INOR	766	Halden, R.	ENVR	787	Hammer, N.	ANYL	341
Haas, K.L.	INOR	773	Halden, R.U.	ENVR	783	Hammer, N.	ORGN	352
Haas, S.E.	MEDI	334	Halden, R.U.	POLY	59	Hammerl, R.	AGFD	291
Haas, T.	ORGN	685	Haldrup, K.	PHYS	111	Hammert, W.B.	ANYL	127
Haase, A.	COLL	644	Haley, A.	CARB	34	Hammes-Schiffer, S.	CATL	456
Haase, D.N.	POLY	58	Haley, M.M.	ANYL	77	Hammes-Schiffer, S.	COMP	123
Habas, S.	CATL	167	Haley, M.M.	INOR	264	Hammond, C.	CATL	275
Habas, S.	CATL	168	Halfen, D.T.	PHYS	556	Hammond, E.M.	BIOL	123
Habas, S.	INOR	31	Haliburton, J.T.	ORGN	272	Hammond, E.M.	MEDI	348
Habeb, S.	AGRO	322	Halique, K.	PMSE	793	Hammond, P.T.	COLL	46
Habtesellassie, B.	ORGN	619	Hall, A.	POLY	225	Hammond, P.T.	COLL	143
Habumugisha, J.	CHED	168	Hall, A.A.	POLY	49	Hammond, P.T.	COLL	398
Hachmann, J.	COMP	300	Hall, A.J.	POLY	454	Hammond, P.T.	COLL	466
Hachmann, J.	COMP	427	Hall, D.R.	COMP	436	Hammond, P.T.	COLL	568
Hachmann, J.	COMP	502	Hall, D.G.	ORGN	359	Hammond, P.T.	COLL	624
Hack, M.D.	CINF	151	Hall, D.C.	MEDI	447	Hammond, P.T.	COLL	701
Hacker, A.	CHED	317	Hall, G.S.	ENFL	290	Hammond, P.T.	COLL	775
Hackfeld, L.C.	TOXI	70	Hall, H.D.	COLL	174	Hammond, P.T.	COLL	788
Hackl, M.	CARB	89	Hall, H.D.	COLL	504	Hammond, P.T.	PMSE	37
Hackos, D.	MEDI	278	Hall, H.L.	NUCL	23	Hammond, P.T.	PMSE	235
Hadad, C.M.	BIOL	126	Hall, H.L.	NUCL	83	Hammond, P.T.	PMSE	339
Haddleton, D.M.	PMSE	269	Hall, H.L.	NUCL	84	Hammond, P.T.	PMSE	745
Haddleton, D.M.	POLY	500	Hall, K.	POLY	366	Hammond, P.T.	POLY	451
Haddrick, M.	MEDI	70	Hall, L.	CHED	229	Hammond, P.T.	POLY	597
Haderspeck, A.	PHYS	445	Hall, L.M.	POLY	282	Hammond-Weinberger, D.R.	ENVR	518
Hadi, P.	ENVR	449	Hall, M.D.	CINF	142	Hammond-Weinberger, D.R.	ENVR	751
Hadisurya, M.	BIOL	84	Hall, M.D.	MEDI	302	Hamza, I.L.	BIOL	293
Hadley, J.	COLL	23	Hall, M.J.	AGRO	293	Hamzik, P.J.	ORGN	238
Hadley, M.	CHED	433	Hall, M.	ORGN	66	Han, B.	ENVR	545
Hadley, R.C.	INOR	390	Hall, M.	ORGN	244	Han, B.	ANYL	247

Han, B.	MEDI	57	Hansen, B.	HIST	18	Harp, J.	ANYL	113
Han, B.	MEDI	58	Hansen, B.B.	MEDI	155	Harraz, D.	INOR	776
Han, B.	CATL	262	Hansen, C.	PMSE	479	Harrigan, D.J.	ENFL	365
Han, C.	ENVR	293	Hansen, W.	BIOL	314	Harrigan, W.	INOR	631
Han, C.	PMSE	639	Hansen, R.R.	COLL	564	Harriman, S.	MEDI	289
Han, D.	ANYL	267	Hanshaw, R.G.	SCHB	24	Harrington, J.M.	ENVR	181
Han, D.	ENVR	822	Hanson, A.	BIOL	305	Harrington, J.M.	BIOL	297
Han, D.	ENFL	248	Hanson, B.	CINF	87	Harriott, N.D.	MEDI	339
Han, F.	ANYL	248	Hanson, C.J.	COLL	761	Harris, A.	MEDI	316
Han, G.	COLL	62	Hanson, K.	INOR	476	Harris, A.E.	INOR	724
Han, G.	COLL	464	Hanson, L.	MEDI	144	Harris, J.W.	CATL	244
Han, G.	PHYS	549	Hanson, R.	ENVR	111	Harris, J.D.	INOR	724
Han, H.	INOR	554	Hansson, P.	COMP	532	Harris, J.D.	INOR	744
Han, H.	ENFL	404	Hantho, J.	BIOL	6	Harris, J.M.	ANYL	216
Han, J.	PMSE	490	Hantschmann, M.	PHYS	108	Harris, J.M.	ANYL	402
Han, J.	ANYL	420	Hanus, T.P.	INOR	145	Harris, J.M.	ANYL	404
Han, J.	CATL	268	Hanus, T.P.	ORGN	213	Harris, L.	PMSE	792
Han, J.	ENFL	540	Hanus, T.P.	ORGN	429	Harris, M.	ORGN	7
Han, J.	COLL	758	Hanzas, J.P.	AGRO	57	Harrison, A.	COMP	236
Han, K.	COMP	497	Hanzas, J.P.	AGRO	76	Harrison, D.P.	INOR	634
Han, L.	ENFL	495	Hao, C.	BIOL	28	Harrison, J.A.	COMP	268
Han, M.	ENFL	32	Hao, F.	ENFL	44	Harrison, J.K.	CHED	319
Han, M.	AGRO	249	Hao, H.	PHYS	383	Harrison, K.L.	PRES	31
Han, M.	PMSE	408	Hao, J.	ENVR	532	Harrison, R.J.	COMP	56
Han, M.	PMSE	485	Hao, J.	COMP	22	Harrison, R.J.	COMP	263
Han, M.	ENVR	233	Hao, J.	MEDI	321	Harrison, R.J.	COMP	549
Han, M.	ENVR	771	Hao, L.	COLL	775	Harrison, R.J.	NUCL	23
Han, M.	ENVR	772	Hao, P.	CATL	400	Harrison, R.J.	NUCL	83
Han, Q.	INOR	313	Hao, Q.	ENFL	232	Harrison, R.G.	CATL	468
Han, Q.	TOXI	82	Hao, W.	AGFD	235	Harrison, S.	AGFD	169
Han, S.	INOR	163	Hao, Y.	PMSE	632	Harrison, S.C.	BIOL	102
Han, S.	ANYL	525	Hao, Z.	ENVR	62	Harrison, T.	CHED	140
Han, S.	ENVR	603	Hao, Z.	ENVR	530	Harrison, T.	POLY	310
Han, S.	ENVR	806	Hapatsha, T.	ORGN	106	Hart, A.	COMSCI	2
Han, S.	ENVR	459	Hapeman, C.J.	AGRO	117	Hart, A.	ENVR	52
Han, S.	POLY	524	Hapeman, C.J.	AGRO	232	Hart, A.	ENVR	124
Han, W.	ENVR	648	Hapeman, C.J.	AGRO	297	Hart, A.C.	MEDI	56
Han, W.	PMSE	239	Hapeman, C.J.	ENVR	736	Hart, A.E.	POLY	163
Han, X.	ENVR	32	Haque, M.	ENFL	555	Hart, B.R.	ANYL	491
Han, X.	INOR	141	Haque, M.	PMSE	346	Hart, J.	ENFL	27
Han, X.	PMSE	421	Haque, M.H.	ENFL	368	Hart, M.D.	INOR	518
Han, X.	POLY	8	Hara, M.	PHYS	375	Hart, M.E.	CHED	311
Han, X.	POLY	432	Harada, T.	MEDI	59	Hart, M.	PMSE	394
Han, Y.	CATL	355	Harada, T.	POLY	296	Hart, S.	PHYS	47
Han, Y.	AGFD	298	Haraldsson, T.	PMSE	294	Harth, E.	PMSE	49
Han, Y.	ENVR	91	Harannahalli, K.H.	MEDI	130	Harth, E.	PMSE	118
Han, Y.	COLL	556	Harandizadeh, Z.	ANYL	428	Harth, E.	PMSE	580
Han, Y.	MEDI	24	Haraszi, M.	POLY	398	Harth, E.	POLY	159
Han, Y.	MEDI	329	Haratipour, P.	BIOL	298	Harth, E.	POLY	171
Han, Y.	ENFL	455	Harb, H.	ORGN	185	Hartingh, T.J.	MEDI	82
Han, Y.	ENFL	407	Harb, M.	ENVR	78	Hartland, G.V.	PHYS	237
Han, Y.	COMP	276	Harbour, V.H.	ORGN	513	Hartleib, J.	ORGN	207
Han, Y.	COMP	279	Hardacre, C.	CATL	118	Hartless, C.	AGRO	229
Han, Y.	COMP	283	Hardacre, C.	CATL	119	Hartless, C.	AGRO	230
Han, Y.	COMP	479	Harder, E.	COMP	28	Hartless, C.	AGRO	333
Han, Z.	INOR	251	Hardie, J.	COLL	129	Hartley, C.	INOR	255
Han, M.	INOR	410	Hardie, J.	COLL	199	Hartlieb, M.	POLY	300
Hanagan, M.	AGRO	344	Hardie, J.	COLL	208	Hartman, C.K.	INOR	110
Hanan, G.	INOR	64	Hardie, J.	COLL	232	Hartman, J.W.	CHED	96
Hanan, G.	INOR	112	Hardie, J.	COLL	536	Hartman, J.W.	INOR	293
Hanasaki, K.	PHYS	319	Harding, S.D.	CINF	67	Hartman, N.	PMSE	518
Hancock, J.F.	COMP	566	Harding, S.D.	CINF	76	Hartmann, A.	COLL	309
Handa, S.	ORGN	470	Harding, S.D.	CINF	117	Hartmann, L.	COLL	343
Handel, J.	ANYL	446	Harding, W.	COMP	339	Hartmann, M.	ENFL	433
Handel, T.M.	MEDI	307	Harding, W.	MEDI	357	Hartsock, R.	PHYS	111
Handler, J.	MEDI	25	Hardt, S.	PMSE	549	Hartwig, J.F.	AGRO	95
Handler, J.	ENVR	241	Hardwick, D.	COMP	164	Hartwig, J.F.	CHED	291
Handoko, H.	ORGN	89	Hardy, D.	INOR	756	Hartwig, J.F.	INOR	274
Handzlik, J.	CATL	54	Hardy, D.A.	INOR	411	Hartz, R.A.	MEDI	364
Haneishi, T.	MEDI	73	Hardy, D.A.	INOR	741	Hartzell, P.L.	CHED	412
Haner, R.	PHYS	47	Haregewoin, A.	PHYS	59	Haruehanroengra, P.	BIOL	290
Hanes, M.S.	BIOL	108	Harfeyanto, R.	AGFD	211	Haruehanroengra, P.	PMSE	754
Hanes, M.S.	CARB	27	Hargrove, A.E.	BIOL	24	Harvey, J.	CATL	94
Haney, C.	ORGN	400	Hargrove, A.E.	BIOL	124	Harvey, J.	GEOC	24
Hango, C.R.	POLY	487	Hari, K.	MEDI	150	Harvey, J.	MEDI	322
Hanhauser, E.	ENVR	52	Harki, D.A.	BIOL	184	Harvey, J.N.	ORGN	192
Hanisch, R.J.	CINF	81	Harlang, T.	PHYS	111	Harvey, J.N.	PHYS	349
Hank, J.	BIOL	130	Harman, H.	INOR	39	Harvey, P.	INOR	432
Hanks, T.W.	COMP	365	Harman, H.	INOR	512	Harwood, W.	AGFD	124
Hanlon, A.	ANYL	485	Harmatys, K.	COLL	60	Hasa, I.	PHYS	59
Hanlon, P.	AGFD	17	Harmatys, K.	PMSE	356	Hasan, A.	MEDI	333
Hann, M.	ENVR	253	Harmatys, K.M.	COLL	454	Hasan, M.	ANYL	227
Hanna, D.	MPPG	107	Harmatys, K.M.	COLL	512	Hasan, M.	COLL	452
Hanna, K.	ENVR	407	Harmon, A.R.	COLL	269	Hasan, M.H.	INOR	143
Hanna, L.	PHYS	222	Harmon, G.	INOR	126	Hasan, M.H.	INOR	760
Hannagan, R.	CATL	399	Harmon, G.	INOR	324	Hasan, M.H.	INOR	761
Hannagan, R.T.	CATL	301	Harmon, N.	PMSE	570	Hasan, M.	PMSE	633
Hannah, T.	PMSE	111	Harmon, T.	CARB	3	Hasan, S.	ANYL	505
Hanover, J.	CARB	49	Harms, N.	CINF	157	Hasan, T.	COLL	51
Hanozin, E.	ORGN	313	Harms, N.	CINF	172	Hasan, T.	COLL	458
Hans, J.	AGFD	234	Harms, N.	ENFL	447	Hase, W.L.	ANYL	84
Hans, J.	AGFD	239	Harner, M.	MEDI	254	Häse, F.	COMP	301
Hänsch, V.G.	INOR	645	Harney, M.	MEDI	49	Häse, F.	COMP	302

Häse, F.	ENFL	560	Hayashi, Y.	MEDI	337	He, W.	BIOL	71
Hasebe, M.	AGRO	346	Haycock, J.	CHED	67	He, X.	AGFD	290
Hasegawa, D.	MEDI	72	Hayden, S.	AGFD	238	He, X.	AGFD	295
Hasegawa, M.	INOR	164	Hayee, F.	COLL	659	He, X.	ANYL	465
Hasegawa, T.	ENVR	317	Hayee, F.	COLL	741	He, X.	ENVR	234
Hasegawa, U.	COLL	790	Hayee, F.	PHYS	239	He, X.	ANYL	323
Haselden, J.	MEDI	332	Hayes, D.	COLL	550	He, X.	ENVR	55
Hasell, T.	PMSE	457	Hayes, D.	PHYS	57	He, X.	ENVR	143
Hashemi, P.	MPPG	90	Hayes, D.	PHYS	161	He, X.	ENVR	462
Hashemian, M.	BIOL	190	Hayes, J.	HIST	8	He, X.	ENFL	297
Hashimoto, H.	CHED	317	Hayes, J.	HIST	10	He, X.	ENFL	356
Hashmi, S.	ENVR	159	Hayes, J.	WCC	10	He, X.	PMSE	482
Hashmi, S.	ENVR	214	Hayes, M.	MEDI	320	He, X.	PMSE	550
Haskins, J.	PHYS	529	Hayes, S.E.	COLL	420	He, X.	AGRO	78
Haskins, J.	PMSE	628	Hayes, T.R.	COLL	255	He, X.	PMSE	55
Haslam, C.A.	BIOL	306	Hayes, T.R.	COLL	446	He, X.	PMSE	109
Hassaine-Sadi, F.	ENVR	646	Hayete, B.	COMP	209	He, Y.	ENVR	307
Hassan, A.	INOR	532	Hayhow, T.	COMP	532	He, Y.	ENVR	308
Hassan, M.	CINF	126	Haynes, C.L.	ANYL	398	He, Y.	ENVR	693
Hassan, M.	CINF	163	Haynes, C.L.	COLL	769	He, Y.	COLL	398
Hassett, K.	MEDI	445	Haynes, C.L.	ENVR	73	He, Y.	COLL	624
Hassin, Y.	PHYS	35	Haynes, C.L.	ENVR	543	He, Y.	POLY	12
Hassin, Y.	PHYS	394	Haynes, D.	CATL	134	He, Y.	COMP	20
Hassinger, C.	AGRO	88	Hays, B.	PHYS	136	He, Y.	COMP	59
Hassinger, C.	AGRO	227	Hays, K.A.	ENFL	95	He, Y.	PMSE	8
Hastak, K.	MEDI	93	Hayton, T.W.	INOR	113	He, Y.	ANYL	249
Hastings, D.E.	PMSE	453	Hayward, M.M.	MEDI	319	He, Y.	ANYL	505
Hastings, M.	AGRO	112	Hazari, N.	INOR	281	He, Z.	ENVR	252
Hasvold, L.A.	MEDI	22	Hazari, N.	INOR	291	He, Z.	ENVR	702
Hata, K.	ANYL	204	Hazel, A.	COMP	145	He, Z.	COLL	342
Hatada, M.	ANYL	412	Hazen, R.M.	INOR	442	He, Z.	AGFD	3
Hatch, M.	ANYL	127	Hazen, S.	MEDI	434	Head, G.	AGRO	373
Hatch, M.	CARB	70	He, C.	ENVR	454	Head-Gordon, M.P.	COMP	88
Hatchel, J.	INOR	304	He, C.	PMSE	137	Head-Gordon, M.P.	COMP	160
Hatchel, J.	MPPG	44	He, C.	ENFL	554	Head-Gordon, M.P.	COMP	169
Hatcher, P.G.	GEOC	30	He, C.	INOR	552	Head-Gordon, M.P.	COMP	552
Hatherly, L.	CELL	15	He, D.	CATL	198	Head-Gordon, T.L.	CHED	364
Hatsukami, D.	TOXI	64	He, D.	CATL	370	Head-Gordon, T.L.	INOR	268
Hatt, J.	CHED	298	He, D.	COLL	580	Headlee, W.L.	CELL	19
Hatton, J.	ENVR	372	He, D.	ENFL	61	Heagy, M.D.	ENFL	28
Hatton, F.	PMSE	749	He, F.	POLY	587	Healy, A.R.	BIOL	166
Hatton, T.	ENVR	38	He, H.	CATL	300	Hearn, M.J.	MEDI	115
Hatton, T.	ENVR	440	He, H.	BIOL	243	Heath, J.	MEDI	322
Hatton, T.	COLL	422	He, H.	POLY	537	Heath, J.R.	PHYS	75
Hatton, T.	PMSE	549	He, H.	PMSE	448	Heberle, F.	COLL	664
Hattori, Y.	MEDI	78	He, H.	MEDI	367	Hebert, M.	CHED	158
Hattori, Y.	MEDI	63	He, H.	CELL	23	Hecht, S.S.	TOXI	12
Haubrich, B.A.	BIOL	99	He, H.	ENFL	4	Hecht, S.S.	TOXI	55
Haubrich, B.A.	CARB	1	He, H.	ENFL	59	Hecht, S.S.	TOXI	38
Haubrich, B.A.	CARB	35	He, H.	ENFL	249	Heck, D.	MEDI	171
Haubrich, B.A.	CHED	69	He, H.	ENFL	290	Heckler, I.	PMSE	621
Haudenschild, D.	COLL	647	He, H.	ENFL	291	Heckler, J.	POLY	606
Hau Ng, Y.	ENFL	27	He, H.	ENFL	292	Hedayati, M.	COLL	189
Hau Ng, Y.	ENFL	75	He, H.	ENFL	295	Hedayati, M.	COLL	341
Hauri, J.F.	AGFD	84	He, J.	CATL	73	Heddleston, J.M.	COLL	797
Haus, B.K.	INOR	480	He, J.	ENVR	411	Hedenqvist, M.	PMSE	588
Hausser, M.	ORGN	537	He, J.	PHYS	588	Hedenqvist, M.	PMSE	706
Haussener, T.	ORGN	258	He, J.	ENFL	27	Hedir, G.	POLY	272
Häussler, M.	PMSE	410	He, J.	PMSE	596	Hedley, S.	MEDI	322
Havenith, R.W.	PHYS	328	He, J.	COLL	159	Hedrick, J.	PMSE	126
Havens, B.	PMSE	460	He, J.	COLL	660	Hedrick, J.	POLY	57
Havens, P.L.	AGRO	32	He, J.	COLL	676	Hedrick, J.	POLY	403
Haverkate, N.A.	MEDI	11	He, J.	ENFL	281	Hedrick, J.	POLY	534
Havlas, Z.	PHYS	328	He, J.	ENFL	458	Hedstrom, L.	BIOL	141
Hawari, A.	PMSE	546	He, J.	ENFL	460	Hedstrom, L.	BIOL	312
Hawk, M.K.	ORGN	494	He, J.	POLY	309	Hedström, S.	COMP	264
Hawker, C.J.	PMSE	114	He, J.	POLY	388	Hee, K.	MEDI	144
Hawker, C.J.	PMSE	167	He, J.	INOR	33	Heeley, E.	PMSE	63
Hawker, C.J.	PMSE	334	He, J.	INOR	408	Heeley, E.	PMSE	269
Hawker, C.J.	PMSE	609	He, J.	PMSE	759	Heemstra, J.M.	ANYL	376
Hawker, C.J.	POLY	124	He, L.	CARB	73	Heemstra, R.	ORGN	83
Hawker, C.J.	POLY	271	He, L.	GEOC	55	Heer, J.	MEDI	266
Hawker, C.J.	POLY	622	He, L.	ENFL	53	Heerding, D.A.	MEDI	25
Hawker, M.	PMSE	726	He, L.	ENVR	447	Heeres, E.	CELL	11
Hawkins, A.	CATL	112	He, L.D.	INOR	764	Heese, L.	MEDI	204
Hawkins, J.	MEDI	19	He, L.D.	ORGN	316	Heffron, T.P.	MEDI	295
Hawkins, M.	PMSE	509	He, M.	ENVR	56	Hefny, F.M.	CARB	116
Hawkins, N.	CHED	424	He, M.	ENVR	528	Hegde, G.A.	COMP	416
Hawkins, P.C.	COMP	156	He, M.	ORGN	413	Hegde, G.A.	NUCL	56
Hawkins, P.C.	COMP	225	He, M.	POLY	382	Hegde, G.A.	NUCL	86
Hawkins, S.	PMSE	619	He, M.	MEDI	64	Hegen, M.	MEDI	319
Haw-Lih, S.	POLY	333	He, P.	ENFL	150	Hegg, E.L.	CATL	400
Hawthorne, N.	ANYL	373	He, P.	PMSE	247	Heichel, D.L.	PMSE	760
Hay, M.B.	ORGN	490	He, P.	PMSE	769	Heidarian, S.	ENVR	320
Hayashi, A.	POLY	413	He, P.	ENVR	40	Heidary, D.K.	INOR	191
Hayashi, A.	POLY	361	He, Q.	CATL	25	Heidary, D.K.	INOR	572
Hayashi, K.	PMSE	443	He, Q.	CATL	482	Heidary, D.K.	MEDI	180
Hayashi, M.	POLY	228	He, R.	COLL	190	Heidel, K.	MEDI	103
Hayashi, M.	POLY	308	He, S.	INOR	242	Heiden, Z.M.	INOR	322
Hayashi, M.	POLY	586	He, S.	PMSE	592	Heiden, Z.M.	INOR	342
Hayashi, T.	ENFL	4	He, S.	COLL	600	Heidenreich, L.K.	ANYL	178
Hayashi, T.	ENFL	249	He, S.	ANYL	342	Heidenreich, L.K.	COLL	53
Hayashi, T.	ENFL	290	He, T.	ANYL	67	Heidenreich, L.K.	COLL	567

Heifets, A.	CINF	127	Henry, H.K.	COLL	192	Hess, C.	ORGN	170
Heifets, A.	CINF	128	Henry, H.K.	ENFL	206	Hesse, S.A.	PMSE	584
Heifetz, A.	MEDI	309	Henry, H.K.	ENFL	476	Hess Sohail, S.H.	PHYS	407
Heifferon, K.A.	POLY	11	Henry, J.	ENVR	707	Hess Sohail, S.H.	PHYS	410
Heiger-Bernays, W.	ENVR	805	Henry, K.	AGRO	20	Hettiarachchi, E.	TOXI	73
Heijden, A.V.	ANYL	291	Hens, Z.	COLL	679	Hetts, S.	POLY	116
Heijs, B.	ANYL	422	Hensel, B.	ENVR	736	Heuer, A.	ORGN	646
Heil, E.	ORGN	451	Hensiek, S.	CHED	422	Heumann, L.	MEDI	108
Heilbronn, L.	NUCL	6	Hensley, A.J.	CATL	296	Heuts, J.P.	POLY	201
Heilbronn, L.	NUCL	9	Hensley, A.J.	CATL	410	Hewa Batagoda, J.	ENVR	817
Heilemann, K.	BIOL	295	Hensley, A.	ANYL	482	Hewage, J.W.	COMP	384
Heilman, D.	CHED	411	Hensley, H.	COLL	627	Hewavitharana, I.	MPPG	2
Heimburg-Molinaro, J.	CARB	12	Henson, N.	NUCL	24	Hewawasam, R.S.	CATL	341
Hein, J.	COMP	302	Henze, D.	BIOL	257	Hewawasam, R.S.	POLY	338
Hein, S.	CHED	299	Henze, D.	MEDI	279	Hewitt, D.	PMSE	564
Heindel, J.	ENVR	510	Heo, C.E.	ENFL	540	Hewitt, M.C.	MEDI	14
Heindel, N.D.	MEDI	171	Heo, J.	COLL	185	Hewitt, W.M.	ORGN	204
Heineman, W.R.	ENVR	209	Heo, J.	COLL	514	Heyl-Clegg, D.	COMP	342
Heinz, B.	MEDI	321	Heo, S.	I&E	7	Heyl-Clegg, D.	MEDI	145
Heinz, H.	COLL	120	Heo, S.	I&E	15	Heyman, H.R.	MEDI	369
Heinz, H.	COLL	325	Hepel, M.R.	ANYL	407	Heymann, J.	AGFD	44
Heinz, H.	COLL	410	Hepler-Smith, E.	CINF	113	Hiaki, T.	ENVR	247
Heinz, H.	COLL	653	Herath, I.S.	AGFD	111	Hiaki, T.	GEOC	17
Heinz, H.	ENFL	262	Herbert, C.	COMP	508	Hibbert, K.	ENVR	443
Heinz, H.	ENVR	301	Herbert, J.	COMP	58	Hibdon, J.	PROF	39
Heinz, H.	PMSE	251	Herbert, J.	PHYS	519	Hicken, E.J.	MEDI	144
Heinz, H.	POLY	468	Herbert, P.	PHYS	580	Hickey, A.	INOR	704
Heinz, T.	PHYS	543	Herbst, A.	AGRO	78	Hickey, E.	INOR	695
Heinzerling, L.	INOR	506	Heredia, N.	AGFD	40	Hickey, R.	COLL	588
Heise, A.	POLY	237	Hergenrother, P.J.	CINF	158	Hickey, R.	PMSE	459
Heise, C.E.	MEDI	325	Hergenrother, P.J.	MEDI	326	Hickey, R.	PMSE	488
Heiss, T.	BIOL	120	Herman, K.	POLY	437	Hickey, R.	PMSE	512
Heiss, T.	CARB	111	Herman, M.	ORGN	25	Hickey, R.	PMSE	516
Hejl, A.	PMSE	798	Hermann, A.	PHYS	555	Hickey, R.	POLY	284
Hejna, M.	ORGN	656	Hermansson, K.	COMP	474	Hickey, R.	POLY	582
Helal, C.J.	ORGN	4	Hern, F.Y.	PMSE	749	Hicklin, R.W.	COMSCI	2
Helbling, D.E.	ENVR	432	Hern, F.Y.	POLY	280	Hickman, E.	NUCL	8
Helbling, D.E.	ENVR	463	Hernandez, J.	AGRO	176	Hickner, M.A.	ENFL	505
Helbling, D.E.	PMSE	1	Hernandez, J.G.	ORGN	210	Hickner, M.A.	POLY	134
Heldebrant, D.	ENFL	80	Hernandez, M.	ENVR	148	Hickox, H.	INOR	150
Helgren, T.R.	ORGN	389	Hernandez, N.	BIOL	314	Hickox, H.	INOR	644
Hell, S.W.	ORGN	256	Hernandez, R.	ANYL	394	Hicks, A.L.	ENVR	180
Heller, D.A.	COLL	696	Hernandez, R.	COMP	48	Hicks, J.	PMSE	515
Heller, D.A.	POLY	390	Hernandez, R.	PHYS	499	Hidalgo-Tobón, S.	CHED	288
Heller, W.	POLY	294	Hernandez, R.	PHYS	500	Hiemori-Kondo, M.	AGFD	92
Hellman, J.	BIOL	94	Hernandez, S.	COLL	157	Hierso, J.	INOR	619
Helman, G.	ENVR	314	Hernandez, S.	PHYS	90	Hietsoi, O.	INOR	510
Helmke, H.	AGRO	211	Hernandez-Burgos, K.	PMSE	175	Higa, C.	POLY	405
Helms, B.	PMSE	96	Hernández-Luis, F.	MEDI	169	Higaki, T.	COLL	493
Helms, B.	PMSE	108	Hernandez-Mujica, A.	INOR	632	Higaki, Y.	PMSE	157
Helms, B.	PMSE	175	Hernandez-Sanchez, B.A.	CHED	1	Higaki, Y.	PMSE	287
Helms, B.	PMSE	178	Hernandez-Soto, H.K.	COMP	326	Higashi, S.	BIOL	106
Helms, B.	PMSE	228	Herr, P.J.	ANYL	517	Higgins, D.A.	ANYL	218
Heltzel, J.	I&E	17	Herrera, A.	PMSE	428	Higgins, D.A.	ANYL	500
Hembre, E.J.	MEDI	330	Herrera, A.	PMSE	556	Higgins, J.S.	PHYS	407
Hemmer, J.R.	POLY	124	Herrera, A.	PMSE	719	Higgins, J.S.	PHYS	410
Hemming, S.	MEDI	289	Herrera, A.	PMSE	817	Higgins, S.R.	GEOC	37
Hempenius, M.A.	POLY	198	Herrera, L.	CATL	173	High, E.	PHYS	172
Hemraj-Benny, T.	CHED	267	Herrera-Martínez, M.	MEDI	169	High, E.	PHYS	453
Hemraj-Benny, T.	CHED	278	Herrera-Pawlis, S.	INOR	234	Hight Walker, A.R.	COLL	797
Hemraj-Benny, T.	CHED	287	Herrick, J.	ORGN	464	Higuchi, M.	ORGN	151
Hemraj-Benny, T.	ENFL	296	Herring, A.M.	ENFL	377	Higuchi, M.	MEDI	325
Hemraz, U.	COLL	214	Herring, A.M.	ENFL	379	Higuchi, T.	CARB	100
Henry, M.	ANYL	499	Herring, J.	INOR	451	Hii, M.	CATL	7
Henry, M.	ANYL	540	Herrington, D.G.	CHED	207	Hijji, Y.M.	ANYL	101
Henckel, D.	MPPG	28	Herrington, J.	MEDI	50	Hijji, Y.M.	ENVR	599
Hendel, S.J.	BIOL	178	Herrington, J.	MEDI	51	Hijji, Y.M.	ENVR	651
Hendel, S.J.	BIOL	236	Hersam, M.	ENFL	163	Hijji, Y.M.	ENVR	657
Henderson, D.L.	ENVR	598	Herschbach, D.	PHYS	30	Hijji, Y.M.	ENVR	836
Henderson, D.L.	TOXI	44	Hersey, A.	CINF	80	Hijji, Y.M.	MEDI	105
Henderson, I.	INOR	563	Hersey, A.	CINF	118	Hijji, Y.M.	MEDI	127
Henderson, M.	COMP	530	Herten, D.	PHYS	445	Hijji, Y.M.	MEDI	450
Henderson, M.	MEDI	83	Herve, A.	INOR	410	Hikosou, D.	COLL	576
Henderson, M.	ENVR	91	Herwig, K.	ENFL	123	Hilder, E.F.	ENVR	183
Hendon, C.H.	INOR	654	Herzberger, J.	POLY	143	Hilder, E.F.	PMSE	144
Hendrick, C.E.	ORGN	115	Herzberger, J.	POLY	275	Hili, R.	BIOL	59
Hendrick, C.E.	ORGN	506	Herzberger, J.	POLY	505	Hili, R.	BIOL	79
Hendrickson, C.L.	ENFL	155	Herzberg, A.	CATL	11	Hili, R.	BIOL	296
Hendriks, M.	PMSE	368	Herzing, A.	PMSE	136	Hilinski, M.K.	ORGN	317
Henebry, J.E.	INOR	38	Herzog, T.A.	CHED	62	Hill, A.	MEDI	342
Hengel, M.	AGFD	288	Herzog-Arbeitman, A.	POLY	367	Hill, C.M.	ANYL	169
Henion, J.D.	BIOL	28	Herzon, S.	BIOL	166	Hill, C.M.	ANYL	347
Henjum, J.	PMSE	187	Herzon, S.	ORGN	646	Hill, C.M.	CHED	150
Henkelman, G.	INOR	194	Herzon, S.	ORGN	671	Hill, C.A.	AGRO	129
Henkelman, G.	INOR	581	Hesheng, L.	ENVR	645	Hill, C.	PHYS	309
Henkelman, G.A.	CATL	325	Hesheng, L.	ENVR	649	Hill, C.L.	INOR	59
Hennessey, S.M.	AGFD	281	Hesheng, L.	ENVR	650	Hill, C.L.	MEDI	244
Henrich, I.	HIST	6	Hesketh, A.	CATL	205	Hill, J.	ANYL	174
Henriksen-Lacey, M.	ANYL	210	Heskett, D.	ANYL	522	Hill, J.	ANYL	169
Henriksen-Lacey, M.	COLL	28	Hess, C.	CATL	418	Hill, J.	ANYL	347
Henriksen-Lacey, M.	COLL	32	Hess, C.	COLL	639	Hill, M.	AGRO	182
Henriquez, B.	BIOL	194	Hess, C.	INOR	47	Hill, M.D.	MEDI	265
Henry, C.	AGRO	318	Hess, C.	ORGN	168	Hill, M.G.	INOR	67

Hill, R.H.	CHAS	31	Ho, C.	AGFD	70	Hofmann, T.	AGFD	273
Hill, S.	CHED	194	Ho, C.	AGFD	71	Hofmann, T.	AGFD	291
Hill, T.	SCHB	19	Ho, C.	AGFD	156	Hofmann, T.	AGRO	110
Hillaire, T.X.	PMSE	516	Ho, C.	AGFD	179	Hofstra, J.	ORGN	145
Hillebrand, C.	INOR	742	Ho, C.	AGFD	184	Hogan, J.	ENFL	488
Hill Foy, R.	ENVR	168	Ho, C.	AGFD	204	Höger, S.	AGRO	121
Hillman, R.A.	ORGN	298	Ho, C.	AGFD	205	Höger, S.	AGRO	301
Hillmyer, M.A.	CELL	39	Ho, C.	AGFD	212	Hogner, A.	ORGN	207
Hillmyer, M.A.	CHED	35	Ho, C.	AGFD	253	Hogue, L.	CHED	107
Hillmyer, M.A.	PMSE	213	Ho, C.	AGFD	261	Hoh, E.	ENVR	89
Hillmyer, M.A.	PMSE	342	Ho, H.	BIOL	78	Hohenshil, A.	ANYL	146
Hillmyer, M.A.	PMSE	741	Ho, J.	PHYS	100	Hohenstein, E.	PHYS	277
Hillmyer, M.A.	POLY	66	Ho, J.	BIOL	203	Hohl, D.	POLY	396
Hillmyer, M.A.	POLY	199	Ho, J.	COLL	660	Hohlman, R.	ORGN	252
Hillson, N.	ENVR	204	Ho, J.	COMP	204	Hohman, J.	ANYL	332
Hillyer, K.	GEOC	18	Ho, R.M.	PMSE	343	Hoi, J.K.	AGFD	234
Hilton, M.	CARB	89	Ho, T.D.	CATL	347	Höjer Holmgren, K.	ANYL	239
Himeda, Y.	CATL	129	Ho, T.A.	GEOC	8	Hojilla Evangelista, M.	AGFD	101
Himeda, Y.	CATL	130	Ho, T.A.	GEOC	22	Hojilla-Evangelista, M.P.	AGFD	247
Himmel, M.E.	CELL	2	Ho, W.	PHYS	208	Hok, S.	ANYL	129
Himmelstoss, S.F.	COLL	383	Ho, Y.	AGFD	184	Hok, S.	ANYL	241
Hincapie, R.	BIOL	130	Hoagland, K.	MEDI	322	Hok, S.	ANYL	243
Hinderliter, P.	AGRO	62	Hoagland, R.E.	AGRO	330	Hok, S.	BIOL	91
Hindle, P.	COMP	538	Hoang, G.	ORGN	305	Hok, S.	BIOL	92
Hindle, P.	ORGN	431	Hoang, H.	CHED	45	Hok, S.	CHED	227
Hinds, A.	ORGN	460	Hoang, H.T.	BIOL	191	Hok, S.	BIOL	146
Hinds, J.	ANYL	38	Hoang, H.N.	CARB	124	Hok, S.	PMSE	464
Hines, W.	INOR	408	Hoang, T.T.	ORGN	247	Hok, S.	PHYS	496
Hinkel, F.	ORGN	412	Hoare, S.R.	MEDI	339	Hok, S.	ANYL	552
Hinkel, F.	ORGN	587	Hobbie, E.	COMP	195	Hok, S.	INOR	688
Hinkle, K.	COLL	97	Hobbie, S.N.	MEDI	378	Hok, S.	POLY	444
Hinkley, T.C.	AGFD	170	Hobbs, C.	INOR	539	Hok, S.	POLY	558
Hinkley, T.C.	AGFD	292	Hobbs, C.E.	CHED	338	Hok, S.	CHED	196
Hinkley, T.C.	ENVR	116	Hobbs, C.E.	CHED	339	Hok, S.	CHED	49
Hinklin, R.J.	MEDI	144	Hobbs, H.	MEDI	208	Hok, S.	CATL	270
Hinnant, K.M.	COLL	729	Hobbs, H.	MEDI	271	Hok, S.	ORGN	641
Hino, A.	ENFL	30	Hobson, J.J.	COLL	784	Hok, S.	I&E	47
Hinrichs, K.	ANYL	543	Hochalter, J.B.	TOXI	38	Hok, S.	I&E	56
Hinrichs, K.	ENVR	123	Hochmuth, G.	ENVR	748	Hok, S.	CATL	166
Hinrichs, K.	PMSE	494	Hodas, N.	COMP	94	Hok, S.	ENFL	501
Hinsu, A.	AGFD	263	Hodge, R.P.	TOXI	70	Hok, S.	INOR	500
Hintennach, A.	ENFL	152	Hodges, B.C.	ENVR	435	Hok, S.	MEDI	429
Hinton, A.	CINF	37	Hodges, M.	PHYS	554	Hok, S.	INOR	590
Hinze, M.E.	ORGN	382	Hodgetts, K.J.	MEDI	111	Hok, S.	CHED	134
Hinze, M.E.	ORGN	384	Hodgetts, R.	ENFL	113	Hok, S.	INOR	260
Hirai, K.	COLL	104	Hodgson, D.M.	ORGN	520	Hok, S.	ANYL	307
Hirani, Z.	ORGN	424	Hodson, A.	AGRO	279	Hok, S.	MEDI	319
Hirano, M.	CARB	100	Hodys, R.	PHYS	592	Hok, S.	MEDI	301
Hirano, T.	BIOL	106	Hoehner, A.	GEOC	48	Hok, S.	COLL	117
Hiraoka, D.	ANYL	204	Hoemann, M.Z.	MEDI	8	Hok, S.	COLL	372
Hirasaki, G.J.	COLL	799	Hoerter, T.N.	INOR	287	Hok, S.	COLL	761
Hirasaki, G.J.	ENFL	52	Hoff, E.A.	PMSE	380	Hok, S.	INOR	529
Hirata, E.	ORGN	404	Hoff, S.	COLL	325	Hok, S.	MPPG	5
Hird, A.	MEDI	19	Hoff, S.	COLL	410	Hok, S.	POLY	571
Hird, K.	CHED	182	Hoff, W.	PHYS	375	Hok, S.	CHED	431
Hiripitiyage, Y.	ENVR	241	Hoffman, A.S.	CATL	14	Hok, S.	COLL	371
Hirokane, R.	MEDI	59	Hoffman, A.S.	CATL	72	Hok, S.	COLL	798
Hiroko, K.	MEDI	73	Hoffman, A.S.	CATL	392	Hok, S.	ENVR	489
Hirose, H.	BIOL	103	Hoffman, B.M.	CATL	239	Hok, S.	ENVR	524
Hirota, Y.	ORGN	394	Hoffman, C.	ENVR	373	Hok, S.	ENVR	87
Hirsch, T.	COLL	383	Hoffman, C.M.	PMSE	394	Hok, S.	COMP	565
Hirst, E.	POLY	447	Hoffman, M.Z.	CHED	104	Hok, S.	ANYL	422
Hirst, E.S.	COLL	748	Hoffman, N.	CATL	518	Hok, S.	PMSE	727
Hirst, J.D.	COMP	137	Hoffman, N.	POLY	448	Hok, S.	PMSE	77
Hirst, J.D.	PHYS	216	Hoffman, S.	ORGN	268	Hok, S.	COLL	295
Hiita, I.	CELL	11	Hoffmann, A.	INOR	234	Hok, S.	AGRO	117
Hitchcock, I.	CATL	114	Hoffmann, C.	CHED	442	Hok, S.	AGRO	232
Hitt, D.M.	INOR	290	Hoffmann, C.	GEOC	4	Hok, S.	BIOL	61
Hixon, A.E.	GEOC	56	Hoffmann, E.	AGRO	169	Hok, S.	CHED	155
Hixon, A.E.	NUCL	31	Hoffmann, E.	CHED	435	Hok, S.	MEDI	448
Hixon, A.E.	NUCL	40	Hoffmann, F.	PHYS	324	Hok, S.	AGRO	138
Hixon, A.E.	NUCL	49	Hoffmann, M.R.	ANYL	16	Hok, S.	INOR	148
Hixon, A.E.	NUCL	75	Hoffmann, M.R.	ENVR	117	Hok, S.	INOR	149
Hizalan, G.	PMSE	540	Hoffmann, M.R.	ENVR	675	Hok, S.	AGFD	48
Hizir, M.	ANYL	283	Hoffmann, M.R.	ENVR	678	Hok, S.	ENVR	183
Hjortland, N.	MEDI	161	Hoffmann, M.R.	ENVR	823	Hok, S.	PMSE	144
Hladik, M.L.	AGRO	183	Hoffmann, M.R.	ENVR	826	Hok, S.	MEDI	314
Hladilková, J.	COLL	154	Hoffmann, N.	PHYS	73	Hok, S.	TOXI	7
Hlil, A.R.	CATL	302	Hoffmann, R.	PHYS	186	Hok, S.	ENVR	451
Hlinka, D.	AGRO	80	Hoffmann, R.	PHYS	364	Hok, S.	COLL	547
Hlinka, D.	AGRO	237	Hoffmann, R.	PHYS	366	Hok, S.	ORGN	514
Hlinka, D.	AGRO	272	Hoffmaster, A.	PMSE	105	Hok, S.	COLL	398
Hlushko, H.	COLL	157	Hoffnagle, A.	PHYS	477	Hok, S.	AGFD	120
Hlushko, H.	PMSE	183	Hoffnagle, A.	PHYS	573	Hok, S.	CHED	166
Hlushko, H.	PMSE	728	Hoffnagle, A.M.	CHED	335	Hok, S.	ORGN	115
Hlushko, R.	COLL	717	Hofman, E.	COLL	224	Hok, S.	ORGN	506
Hlushko, R.	PMSE	728	Hofman, E.	COLL	245	Hok, S.	ORGN	201
Hnatko, J.	ENVR	665	Hofmann, F.	MEDI	101	Hok, S.	ENFL	393
Hnatko, J.	GEOC	70	Hofmann, R.	POLY	129	Hok, S.	ORGN	129
Ho, C.	I&E	57	Hofmann, R.	POLY	429	Hok, S.	ORGN	603
Ho, C.	AGFD	63	Hofmann, T.	AGFD	106	Hok, S.	ENVR	741
Ho, C.	AGFD	67	Hofmann, T.	AGFD	196	Hok, S.	PHYS	8
Ho, C.	AGFD	69	Hofmann, T.	AGFD	272	Hok, S.	CELL	4

Hong, P.	CARB	14	Hossain, M.M.	PMSE	365	Hsieh, H.	ENVR	91
Hong, S.	ENVR	457	Hossain, M.K.	ENFL	269	Hsieh, J.	COLL	56
Hong, S.	ENVR	457	Hossaininasr, S.	COLL	771	Hsieh, M.	ENVR	538
Hong, S.	ENFL	282	Hossaininasr, S.	PMSE	788	Hsieh, M.	ENVR	344
Hong, S.	ORGN	137	Hosseini, A.	ANYL	227	Hsieh, P.Y.	ENFL	193
Hong, S.	ORGN	138	Hosseini, A.S.	BIOL	169	Hsieh, T.	INOR	45
Hong, S.	ORGN	139	Hosseini, H.	ENFL	370	Hsieh, V.	INOR	432
Hong, S.	COLL	525	Hossen, M.	ENVR	119	Hsiung, C.	ENVR	811
Hong, S.	COLL	200	Hostert, J.	ENVR	196	Hsu, A.	CHED	291
Hong, S.	COLL	201	Hotchandani, R.	CINF	72	Hsu, C.	PHYS	517
Hong, S.	COLL	267	Hotchkin, M.	COLL	456	Hsu, C.	ENVR	271
Hong, S.	ENVR	41	Hotchkiss, A.	TOXI	63	Hsu, C.	ENVR	586
Hong, S.	ENVR	792	Hoth, L.	ORGN	4	Hsu, H.	BIOL	25
Hong, Y.	AGFD	264	Hou, C.	ENVR	271	Hsu, H.	BIOL	199
Hong, Y.	BIOL	31	Hou, D.	AGFD	34	Hsu, H.	COMP	336
Hong, Y.	ENVR	474	Hou, H.	ENVR	324	Hsu, H.	COMP	419
Hongtao, Y.	ENVR	456	Hou, H.	ENVR	794	Hsu, I.	ANYL	102
Hongxing, L.	ENFL	313	Hou, J.	ENVR	30	Hsu, I.	ANYL	152
Hongying, Z.	ENVR	766	Hou, J.	ANYL	159	Hsu, K.	ANYL	554
Honig, E.S.	SCHB	13	Hou, J.	PMSE	591	Hsu, K.	BIOL	250
Honkala, K.	COMP	161	Hou, J.	TOXI	36	Hsu, S.C.	ORGN	510
Honma, T.	COMP	305	Hou, S.	MEDI	168	Hsu-Kim, H.	ENVR	104
Honnig, A.E.	AGFD	324	Hou, S.	COLL	375	Htoon, H.	COLL	372
Honorato, C.	CELL	59	Hou, S.	ENVR	760	Htoon, H.	INOR	529
Honrao, C.	MEDI	60	Hou, S.	COLL	434	Hu, Y.	ENVR	81
Honrao, C.	MEDI	87	Hou, W.	ENVR	809	Hu, B.	ENFL	408
Hood, L.	MPPG	7	Houchat, J.	AGRO	308	Hu, B.	PMSE	112
Hoogboom, J.	COLL	640	Houck, J.	CHED	356	Hu, B.	AGFD	188
Hoogenboom, R.	POLY	315	Houck, J.	CHED	357	Hu, B.	ENFL	475
Hoogenboom, R.	POLY	316	Houghton, A.K.	MEDI	279	Hu, B.	INOR	665
Hoogeweg, C.	AGRO	300	Houglund, J.	BIOL	73	Hu, C.	ENVR	460
Hook, J.	AGRO	229	Houglund, J.	BIOL	245	Hu, C.	ENVR	569
Hook, J.	AGRO	230	Houglund, J.	BIOL	260	Hu, C.	ENVR	571
Hook, J.	AGRO	333	Houglund, J.	CHED	193	Hu, D.X.	MEDI	26
Hooker, J.M.	NUCL	51	Houglund, J.	CATL	159	Hu, D.	POLY	491
Hooper, J.	ENVR	309	Houk, K.N.	CHED	382	Hu, E.	ENFL	521
Hoops, G.C.	BIOL	198	Houk, K.N.	INOR	95	Hu, H.	ORGN	96
Hoops, G.C.	BIOL	223	Houk, K.N.	ORGN	482	Hu, H.	ANYL	528
Hoover, B.	ANYL	392	Houk, K.N.	ORGN	501	Hu, H.	COLL	349
Hooyman, C.J.	TOXI	16	Houk, K.N.	ORGN	505	Hu, H.	PMSE	75
Hopfer, H.	AGFD	185	Houle, R.	MEDI	311	Hu, H.	PMSE	389
Hopkins, C.	MEDI	143	House, A.N.	MPPG	44	Hu, H.	POLY	175
Hopkins, D.	AGRO	239	Houseknecht, J.	CHED	430	Hu, H.	POLY	491
Hopkins, E.J.	CATL	206	Houweling, D.	ENVR	330	Hu, H.	ENVR	825
Hopkins, E.	CATL	474	Houze, J.B.	MEDI	108	Hu, J.Z.	GEOC	46
Hopkins, E.	COLL	303	Houze, J.B.	MEDI	322	Hu, J.	ENVR	354
Hopkins, M.D.	INOR	461	Hoveyda, A.H.	INOR	686	Hu, J.	CATL	249
Hopkins, M.D.	INOR	469	Howard, A.	MEDI	311	Hu, J.	CATL	319
Hopkins, Z.	ENVR	42	Howard, A.J.	AGFD	268	Hu, J.	CATL	320
Hopkins, Z.	ENVR	43	Howard, B.	INOR	293	Hu, J.	CATL	321
Hopkins, Z.	ENVR	184	Howard, B.	ENVR	106	Hu, J.	CATL	327
Hor, J.	INOR	265	Howard, E.	COLL	802	Hu, J.	CATL	343
Hore, M.J.	PMSE	218	Howard, M.	SCHB	30	Hu, J.	ENFL	243
Horgan, B.P.	AGRO	46	Howard, W.A.	CHED	248	Hu, J.	ANYL	195
Horgan, J.	ORGN	628	Howarth, A.	ORGN	438	Hu, J.	CARB	125
Hori, N.	MEDI	59	Howarth, A.J.	INOR	249	Hu, J.	ENVR	794
Hori, N.	MEDI	73	Howarth, A.J.	ORGN	434	Hu, J.	ENFL	382
Horiba, N.	MEDI	59	Howe, D.H.	ORGN	584	Hu, J.	CATL	446
Horie, K.	NUCL	41	Howe, R.	CATL	112	Hu, K.	INOR	358
Horike, S.	INOR	716	Howe, R.	CATL	114	Hu, L.	ENVR	694
Horikoshi, Y.	AGFD	82	Howell, B.A.	AGFD	319	Hu, L.	ENFL	351
Horiya, S.	CARB	65	Howell, T.	AGRO	108	Hu, M.	ENFL	459
Horkay, F.	BIOL	34	Hower, J.C.	ENVR	104	Hu, N.	PMSE	603
Horkay, F.	POLY	91	Hoy, J.	YCC	2	Hu, P.	CATL	358
Horkayne-Szakaly, I.	BIOL	34	Hoye, T.R.	PMSE	638	Hu, P.	ENVR	587
Horlor, B.T.	COLL	403	Hoyt, A.M.	COLL	233	Hu, Q.	AGFD	82
Hornberger, W.	MEDI	318	Hozák, P.	CATL	326	Hu, R.	ENFL	221
Horne, D.	MEDI	322	Hratchian, H.P.	ORGN	185	Hu, S.	INOR	240
Horne, W.S.	BIOL	98	Hratchian, H.P.	PROF	42	Hu, S.	ENFL	456
Horner-Devine, C.	PROF	1	Hreniak, D.H.	INOR	578	Hu, S.	ENVR	397
Hornig, J.	ENVR	808	Hristov, D.	COLL	140	Hu, S.	ENVR	535
Hornig, J.	ENVR	810	Hristov, D.	COLL	604	Hu, S.	AGFD	164
Hornick, J.	ENVR	289	Hristovski, K.D.	ENVR	422	Hu, T.	COLL	700
Hornung, J.	INOR	616	Hristovski, K.D.	ENVR	486	Hu, W.	MEDI	282
Horstman, N.	PMSE	765	Hrodmarsson, H.R.	PHYS	83	Hu, X.	INOR	238
Horstmann, B.	PHYS	343	Hruby, V.J.	MEDI	147	Hu, X.	POLY	244
Horvath, D.	YCC	22	Hsiao, B.S.	ANYL	97	Hu, X.	PMSE	28
Horvath, K.	ANYL	517	Hsiao, B.S.	ANYL	168	Hu, X.	MEDI	302
Horwitz, S.B.	MEDI	391	Hsiao, B.S.	CELL	18	Hu, X.C.	ENVR	732
Hosfield, D.	MEDI	370	Hsiao, B.S.	CELL	73	Hu, Y.	ENVR	222
Hoskins, C.	COLL	381	Hsiao, B.S.	CELL	75	Hu, Y.	ENVR	539
Hosono, H.	CATL	409	Hsiao, B.S.	ENVR	449	Hu, Y.	GEOC	31
Hosono, T.	AGFD	31	Hsiao, B.S.	I&E	50	Hu, Y.	GEOC	32
Hossain, A.	INOR	143	Hsiao, B.S.	PMSE	448	Hu, Y.	NUCL	36
Hossain, A.	INOR	505	Hsiao, B.S.	PMSE	528	Hu, Y.	ENFL	519
Hossain, A.	INOR	705	Hsiao, C.S.	MEDI	232	Hu, Y.	ENVR	257
Hossain, A.	INOR	706	Hsiao, M.	POLY	179	Hu, Y.	ENVR	467
Hossain, A.	INOR	760	Hsiao, T.	AGFD	261	Hu, Y.	ENFL	464
Hossain, A.	INOR	761	Hsiao, Y.	GEOC	40	Hu, Y.	COMP	315
Hossain, A.	MEDI	41	Hsieh, A.J.	POLY	454	Hu, Y.	COLL	38
Hossain, A.A.	CHED	185	Hsieh, C.	INOR	45	Hu, Y.	CELL	45
Hossain, M.	ORGN	108	Hsieh, C.	ENVR	538	Hu, Y.H.	ENFL	21
Hossain, M.	ORGN	297	Hsieh, C.	ENVR	613	Hu, Y.H.	ENFL	73

Hu, Y.H.	ENFL	121	Huang, Q.	ENVR	187	Hubley, C.T.	ENVR	598
Hu, Y.H.	ENFL	132	Huang, Q.	ENVR	522	Hubley, N.	NUCL	20
Hu, Y.H.	ENFL	440	Huang, Q.	ENVR	679	Hudalla, C.J.	CHAS	8
Hu, Y.	ENFL	207	Huang, Q.	AGFD	163	Huddar, S.	MEDI	186
Hu, Z.	ENFL	263	Huang, Q.	AGFD	187	Hudkins, R.L.	MEDI	358
Hu, Z.	ENFL	190	Huang, Q.	AGFD	190	Hudnall, T.	INOR	4
Hu, Z.	BIOL	95	Huang, Q.	AGFD	210	Hudnall, T.	INOR	125
Hu, Z.	MEDI	311	Huang, Q.	AGFD	212	Hudnall, T.	INOR	126
Hu, Z.	INOR	529	Huang, Q.	AGFD	262	Hudnall, T.	INOR	324
Hu, Z.	INOR	199	Huang, Q.	ENVR	464	Hudson, B.S.	POLY	571
Hu, Z.	PHYS	183	Huang, R.	COLL	342	Hudson, C.	ANYL	546
Hu, Z.	PHYS	276	Huang, R.	ENVR	367	Hudson, C.M.	COMP	404
Hua, A.M.	ORGN	450	Huang, R.	ORGN	146	Hudson, K.L.	CARB	48
Hua, B.	BIOL	200	Huang, R.	AGFD	38	Hudson, M.H.	COLL	374
Hua, L.	COLL	331	Huang, S.	ENVR	77	Hudson, P.	COMP	241
Hua, L.	ENVR	18	Huang, S.	MEDI	396	Hudson, R.L.	HIST	4
Hua, M.	ENVR	412	Huang, S.	ENFL	10	Hudson, R.L.	PHYS	589
Hua, M.	ENVR	462	Huang, S.	INOR	45	Hudson Smith, N.	ENVR	543
Huan, S.	CELL	37	Huang, S.	ENVR	21	Huerfano, I.	INOR	343
Huan, S.	COLL	63	Huang, S.	CATL	250	Huestis, P.L.	PHYS	475
Huang, W.	AGFD	38	Huang, S.R.	ANYL	519	Huestis, P.L.	PHYS	476
Huang, Y.	MEDI	237	Huang, S.	POLY	13	Huey, M.	CARB	46
Huang, A.	MEDI	432	Huang, S.	COMP	518	Huff, T.B.	ENVR	640
Huang, B.	CARB	125	Huang, S.	COMP	557	Huff, T.B.	ENVR	708
Huang, B.	CATL	99	Huang, S.	ENFL	89	Huffaker, A.	AGRO	219
Huang, B.	CATL	218	Huang, S.	COLL	691	Hugar, K.M.	PMSE	38
Huang, B.	MEDI	282	Huang, S.	ENVR	684	Huggett, D.	AGRO	366
Huang, C.	PHYS	383	Huang, S.	POLY	279	Hughes, A.M.	POLY	256
Huang, C.	AGFD	112	Huang, S.	I&E	46	Hughes, C.	AGRO	379
Huang, C.	INOR	139	Huang, S.	BIOL	205	Hughes, D.	PMSE	63
Huang, C.	INOR	440	Huang, S.	INOR	457	Hughes, J.	MEDI	190
Huang, C.	ENVR	350	Huang, T.	ANYL	4	Hughes, J.	MEDI	424
Huang, C.	ENVR	344	Huang, T.	INOR	335	Hughes, J.	MEDI	453
Huang, C.	ENVR	807	Huang, T.	COMP	130	Hughes, K.A.	AGRO	138
Huang, C.	MEDI	265	Huang, T.	MEDI	21	Hughes, L.	COMP	106
Huang, C.	MEDI	367	Huang, T.	PMSE	620	Hughes, S.	COMP	532
Huang, D.	ENVR	109	Huang, T.	PHYS	439	Hughes, T.S.	ORGN	406
Huang, D.	ENVR	435	Huang, W.	MEDI	57	Hughes, T.S.	ORGN	599
Huang, D.	ORGN	251	Huang, W.	MEDI	58	Hughes-Oliver, J.	CINF	50
Huang, E.	MEDI	21	Huang, W.	MEDI	233	Hugo, M.	COLL	187
Huang, F.	PMSE	422	Huang, W.	CATL	64	Huh, J.	POLY	311
Huang, G.	ENFL	315	Huang, W.	COMP	561	Huh, S.	INOR	732
Huang, G.	PMSE	36	Huang, W.	PMSE	765	Huhmann, B.L.	ENVR	261
Huang, G.	AGFD	16	Huang, W.	ANYL	70	Hui, J.	ANYL	512
Huang, H.	POLY	458	Huang, W.	CATL	142	Hui, J.	ANYL	375
Huang, H.	BIOL	25	Huang, W.	CATL	179	Hui, T.	PMSE	716
Huang, H.	ENVR	617	Huang, W.	CATL	243	Hui, Y.	POLY	567
Huang, H.	PMSE	736	Huang, W.	CATL	299	Huisman, G.W.	CATL	160
Huang, H.	ENVR	329	Huang, X.	AGRO	118	Huisman, M.	ORGN	108
Huang, H.	ENVR	158	Huang, X.	ANYL	16	Hulcoop, D.	CINF	118
Huang, H.	MEDI	366	Huang, X.	ENVR	117	Hull, K.L.	ENFL	48
Huang, I.	MPPG	67	Huang, X.	CATL	41	Hull, R.B.	ENVR	49
Huang, J.	AGRO	157	Huang, X.	COLL	338	Hulse, V.	ENVR	363
Huang, J.	CATL	141	Huang, X.	ENFL	521	Hult, D.	PMSE	48
Huang, J.	ENVR	475	Huang, X.	MPPG	39	Huma, Z.	ENFL	291
Huang, J.	ENFL	500	Huang, X.	MEDI	22	Humaidy, D.	INOR	188
Huang, J.J.	ENVR	833	Huang, X.	AGFD	186	Humby, M.	COMP	370
Huang, J.	PHYS	526	Huang, X.	PMSE	562	Humeniuk, A.	PHYS	521
Huang, J.	CATL	295	Huang, X.	POLY	239	Hummer, G.	COMP	63
Huang, J.	ENFL	339	Huang, X.	CATL	303	Hummer, G.	COMP	102
Huang, J.	ENVR	773	Huang, X.	CARB	56	Humoud, M.	ANYL	144
Huang, J.	AGFD	253	Huang, X.	PMSE	545	Humphrey, J.M.	ORGN	4
Huang, K.	POLY	477	Huang, X.	PMSE	789	Humphrey, J.M.	ORGN	595
Huang, K.	ANYL	159	Huang, X.	ENFL	352	Humphrey, J.M.	ORGN	596
Huang, K.Y.	PMSE	747	Huang, X.	ENVR	526	Humphrey, S.M.	INOR	194
Huang, L.	MEDI	292	Huang, Y.	PMSE	739	Humphrey, S.M.	INOR	581
Huang, L.	INOR	201	Huang, Y.	PMSE	750	Humphries, K.	COLL	673
Huang, L.	ENFL	186	Huang, Y.	CATL	132	Humston-Fulmer, E.	AGFD	326
Huang, L.	COLL	465	Huang, Y.	ENVR	383	Hung, C.	ENVR	404
Huang, L.	ENVR	831	Huang, Y.	ENVR	402	Hung, C.	ENVR	811
Huang, M.	PHYS	119	Huang, Y.	ENVR	584	Hung, C.	PMSE	261
Huang, M.	TOXI	70	Huang, Y.	ENVR	721	Hung, C.	ENVR	604
Huang, M.	ENVR	154	Huang, Y.	ENVR	722	Hung, F.R.	COLL	197
Huang, M.	ENVR	21	Huang, Y.	ENVR	280	Hung, F.R.	COLL	549
Huang, M.L.	CARB	17	Huang, Y.	ENVR	390	Hung, F.R.	ENVR	781
Huang, M.L.	CARB	121	Huang, Y.	MEDI	281	Hung, F.	ENVR	320
Huang, M.	ANYL	254	Huang, Y.Y.	BIOL	284	Hung, M.	INOR	448
Huang, M.	MEDI	261	Huang, Y.	MEDI	261	Hung, M.	INOR	597
Huang, M.	PMSE	42	Huang, Y.	COLL	120	Hung, W.	AGFD	67
Huang, M.	PMSE	43	Huang, Y.	ENFL	262	Hung, W.	AGFD	135
Huang, M.	PMSE	611	Huang, Y.	ENFL	534	Hung, W.	AGFD	205
Huang, M.	ORGN	121	Huang, Y.M.	BIOL	14	Hung-Yi, C.	ENVR	808
Huang, N.	POLY	371	Huang, Y.M.	COMP	250	Hung-Yi, C.	ENVR	810
Huang, P.	ORGN	472	Huang, Y.	ANYL	30	Huniar, U.	COMP	44
Huang, P.	ORGN	670	Huang, Y.	ENVR	75	Hunsucker, T.	PMSE	650
Huang, P.	ENVR	188	Huang, Z.	ENVR	32	Hunt, C.T.	WCC	11
Huang, Q.	COLL	612	Huang, Z.	BIOL	104	Hunt, D.M.	MEDI	118
Huang, Q.	COMP	39	Huang, Z.	COLL	289	Hunt, E.	ENVR	469
Huang, Q.	COMP	414	Huang, Z.	INOR	306	Hunt, J.R.	PHYS	264
Huang, Q.	PHYS	246	Huang, Z.	ORGN	649	Hunt, K.	PRES	21
Huang, Q.	ENFL	172	Hubble, L.J.	ENVR	600	Hunt, P.	CINF	124
Huang, Q.	AGFD	25	Huber, K.	MEDI	266	Hunt, P.	COMP	135
Huang, Q.	ENVR	47	Hubert, S.	ANYL	74	Hunt, P.	COMP	353

Hunter, A.M.	CINF	85	Hwang, M.	COLL	165	Ilton, E.S.	GEOC	58
Hunter, B.M.	INOR	67	Hwang, M.	COLL	221	Ilton, E.S.	GEOC	62
Hunter, C.	AGRO	218	Hwang, M.	COLL	306	Ilton, E.S.	GEOC	63
Hunter, C.	AGRO	219	Hwang, S.	INOR	114	Im, S.	PMSE	402
Hunter, C.	PHYS	407	Hwang, S.	BIOL	41	Im, W.	CARB	83
Hunter, H.	ENVR	345	Hwang, S.	BIOL	42	Im, W.	COMP	224
Hunter, H.	GEOC	38	Hwang, S.	INOR	131	Imaeda, T.	MEDI	314
Hunter, W.B.	AGRO	369	Hwang, W.	PMSE	402	Imahori, H.	ORGN	535
Hunyadi Murph, S.	COLL	33	Hwangbo, M.	ENVR	188	Imai, H.	ANYL	163
Hunyadi Murph, S.	COLL	475	Hwangbo, M.	ENVR	229	Imai, H.	ANYL	164
Huo, D.	BIOL	100	Hyatt, L.A.	ENVR	469	Imai, T.	ORGN	152
Huo, L.	ENVR	153	Hyman, M.	ENVR	305	Imai, Y.	MEDI	428
Huo, L.	ORGN	160	Hyman, M.	ENVR	323	Imam, M.R.	POLY	372
Huo, P.	COMP	124	Hyman, M.	ENVR	700	Imato, K.	POLY	416
Huo, P.	COMP	203	Hymel, G.T.	CARB	8	Imbach-Weese, P.	MEDI	101
Huo, P.	PHYS	211	Hynes, J.T.	PHYS	93	Imbalzano, G.	COMP	180
Huo, S.	INOR	599	Hynes, J.T.	PHYS	387	Imbernon, L.	POLY	110
Huo, S.	INOR	684	Hynes, J.	MEDI	313	Imhan, C.	ENVR	561
Huo, X.	CATL	361	Hyon, J.	POLY	215	Imhoff, G.	MEDI	356
Huo, X.	ENFL	419	Hyppolite, L.	COLL	188	Imoto, J.	NUCL	41
Huo, X.	ENVR	225	Hyppolite, L.	COLL	264	Impastato, A.	MEDI	70
Huo, X.	POLY	43	Hyre, A.S.	INOR	421	Imre, G.	CINF	152
Huo, Y.	COLL	480	Hyster, T.	CATL	110	Imura, A.	ORGN	566
Huo, Z.	ENVR	825	Hyun, H.	ANYL	499	In, I.	PMSE	411
Huo, Z.	ENFL	136	Hyun, S.	BIOL	31	In, I.	PMSE	437
Hupcey, M.A.	SCHB	11	Hyvönen, M.	BIOL	304	In, I.	PMSE	463
Hupf, E.	INOR	382	Iablonskiy, D.	PHYS	217	In, I.	PMSE	559
Hupp, J.T.	CATL	87	Iacono, S.T.	INOR	500	Inaba, M.	COLL	503
Hua, A.	PMSE	120	Iacono, S.T.	POLY	209	Inakollu, V.	COMP	185
Hua, N.A.	ENFL	419	Iacono, S.T.	POLY	504	Inam, M.	PMSE	123
Hur, N.H.	CATL	322	Iacovita, C.	COLL	243	Inayat, A.	ENFL	433
Hur, N.H.	ENVR	637	Iannone, G.	CHED	165	Inerbaev, T.	COMP	279
Hur, N.H.	INOR	135	Iba, Y.	ENVR	623	Inerbaev, T.	COMP	280
Hur, N.H.	INOR	732	Ibanez, A.	COLL	156	Inerbaev, T.M.	COMP	194
Hur, N.H.	INOR	733	Ibba, F.	ORGN	358	Infantine, J.C.	WCC	2
Hur, S.	PMSE	466	Ibrahim, F.	ORGN	470	Inganas, O.	PMSE	238
Hura, N.	ORGN	286	Ibrahim, S.	AGFD	78	Inge, K.	CATL	212
Hurliburt, B.	AGFD	266	Ibrahim, S.	AGFD	133	Inglis, G.	MEDI	271
Hurley, B.	MEDI	287	Ibrahim, S.	AGFD	134	Ingólfsson, O.	INOR	633
Hurley, M.	COLL	412	Ibrahim, S.	BIOL	240	Ingram, B.	ENFL	204
Hurley, M.	COLL	295	Ibrahim, Y.M.	ANYL	514	Ingram, B.	ENFL	205
Hursan, D.	ENFL	400	Iceman, C.R.	ENVR	242	Ingram, C.	PROF	43
Hurst, J.	AGRO	299	Ichida, Y.	MEDI	59	Ingram, J.C.	ENVR	639
Hurst, K.E.	CATL	361	Ichikawa, H.	ORGN	571	Ingram, J.C.	WCC	24
Hurst, K.E.	PMSE	23	Ichikawa, H.	AGFD	73	Ingram, M.	COMP	372
Hurst, S.K.	CHED	438	Ichikawa, S.	MEDI	349	Ingram, S.E.	CHED	415
Hurst, S.K.	INOR	231	Ichikawa, S.	ORGN	156	Ingverud, T.	POLY	394
Hurst, S.K.	INOR	451	Ichikawa, T.	ORGN	48	Inose-Takahashi, Y.	ANYL	412
Hurt, R.	COLL	444	Ichiyé, T.	COMP	30	Inoue, H.	AGFD	5
Hurt, R.	ENVR	133	Ichiyé, T.	COMP	39	Inoue, K.	AGFD	217
Hurtado, A.	CHED	347	Ichiyé, T.	COMP	367	Inoue, M.	CATL	287
Hury, D.M.	MEDI	214	Ichiyé, T.	COMP	414	Inoue, M.	ORGN	94
Hury, D.M.	MEDI	298	Ichiyé, T.	PHYS	246	Inoue, S.	INOR	149
Hury, D.M.	MEDI	300	Ida, T.	PMSE	500	Inoue, T.	PMSE	688
Huse, N.	PHYS	8	Iddir, H.	ANYL	247	Inoué, R.	CATL	222
Huse, N.	PHYS	14	Ide, M.	MEDI	59	Insyani, R.	CATL	276
Husek, J.	PHYS	522	Ide, M.	MEDI	73	Intan, N.	ENFL	350
Husek, J.	PHYS	527	Idehen, E.	AGFD	54	Intasanta, V.	ENVR	837
Husic, B.E.	WCC	5	Idenoue, S.	PMSE	538	Intorp, S.	ORGN	412
Huskic, I.	INOR	656	Idiris, F.	ORGN	554	Inush Kalana, U.	POLY	338
Huski, I.	ORGN	433	Idris, M.	ORGN	683	Iordanov, I.	POLY	552
Hussain, A.	PHYS	8	Idrobo, J.	INOR	304	Iorga, B.I.	COLL	548
Hussain, J.	CATL	46	Idrobo, J.	MPPG	44	Iorga, B.I.	COMP	569
Hussain, K.M.	POLY	345	Ievlev, A.	GEOC	37	Iovan, D.	INOR	70
Hussain, Z.	CATL	98	Iezzi, E.	POLY	554	Iovine, P.M.	CARB	2
Hussein, M.K.	ANYL	101	Iezzi, E.B.	POLY	211	Iovine, P.M.	CARB	5
Hussein, Y.	ENFL	308	Igarashi, T.	ORGN	340	Ip, S.	TOXI	41
Hustad, P.D.	POLY	536	Iglesia, E.	COLL	427	Iqbal, A.	PHYS	411
Huston, A.	COLL	441	Iglesias-Montoro, P.	ORGN	513	Iqbal, M.	COLL	719
Huszthy, P.	POLY	376	Iguchi, M.	ENFL	66	Iqbal, M.	CHED	333
Hutchings, G.	CATL	25	Ihde, M.	ENVR	53	Irgibaeva, I.	ENVR	635
Hutchings, G.	CATL	482	Ihee, H.	PHYS	97	Irgibaeva, I.	PMSE	517
Hutchings, M.G.	CINF	148	Ihee, H.	PHYS	163	Iriarte, M.	PMSE	412
Hutchins, C.W.	MEDI	318	Iida, A.	AGFD	98	Iriarte, M.	POLY	334
Hutchins, K.M.	PMSE	601	Iinishi, A.	MEDI	428	Iriarte, M.	POLY	465
Hutchins, K.M.	COLL	326	Iisa, K.	ENFL	301	Iriarte-Gross, J.M.	PROF	16
Hutchison, J.E.	COLL	448	Ikebukuro, K.	ANYL	170	Irigoyen, D.	CHED	347
Hutchison, J.E.	COLL	693	Ikebukuro, K.	ANYL	204	Irikura, K.K.	COMP	478
Huther, H.A.	CHED	292	Ikebukuro, K.	ANYL	425	Irizarry, M.C.	MEDI	330
Huttunen, P.	CATL	444	Ikeda, T.	ORGN	6	Irmer, A.	AGRO	305
Huttunen, P.	PHYS	491	Ikehara, R.	NUCL	41	Irmer, A.	AGRO	337
Huynh, V.	PMSE	811	Ikuma, K.	ENVR	20	Irudayanathan, F.J.	BIOL	260
Huynh, W.	INOR	755	Ilawe, N.V.	COMP	2	Irvin, M.	MEDI	369
Hwang, A.	PMSE	425	Ilawe, N.V.	COMP	208	Irvine, D.J.	COLL	128
Hwang, D.	CINF	143	Ilgen, A.	GEOC	5	Irvine, D.J.	COLL	398
Hwang, H.	AGFD	85	Ilgen, A.	GEOC	8	Irvine, D.J.	COLL	534
Hwang, I.	ENVR	773	Ilgen, A.	GEOC	12	Irvine, D.J.	COLL	568
Hwang, J.	AGRO	304	Ilies, M.A.	COLL	545	Irving, M.Q.	MEDI	190
Hwang, J.	CARB	30	Ilies, M.A.	COLL	627	Irving, M.Q.	MEDI	424
Hwang, J.	CARB	31	Ilies, M.A.	COLL	708	Irving, M.Q.	MEDI	453
Hwang, J.	ENFL	557	Ilies, M.A.	MEDI	188	Irwin, J.J.	COMP	71
Hwang, J.	MEDI	152	Ilinski, P.	MPPG	39	Isaac, O.S.	ENFL	550
Hwang, M.	POLY	195	Iliopoulos Tsoutsouvas, C.	MEDI	61	Isaacs, K.	AGRO	28

Isaacs, K.	AGRO	29	Iwata, T.	CELL	53	Jagtap, N.	ENVR	36
Isaacs, L.D.	PMSE	353	Iwata, T.	ORGN	479	Jagtap, S.	AGFD	172
Isabella, C.	BIOL	227	Iwatani, M.	MEDI	63	Jahan, A.	INOR	705
Isacchi, A.	MEDI	365	Iyanobor, E.	CATL	259	Jahchan, N.	MEDI	21
Isah, S.	INOR	727	Iyemperumal, S.	CATL	29	Jahnke, J.P.	COLL	412
Isais, T.	PMSE	216	Iyengar, S.S.	INOR	612	Jaimes-Lizcano, Y.A.	PMSE	250
Isayev, O.	COMP	95	Iyengar, S.S.	ORGN	188	Jain, A.N.	CINF	7
Isayev, O.	COMP	136	Iyengar, S.S.	PHYS	78	Jain, A.N.	COMP	73
Isayev, O.	COMP	179	Iyengar, S.S.	PHYS	82	Jain, A.	ENVR	252
Isayev, O.	COMP	499	Iyengar, S.S.	PHYS	121	Jain, A.	ENVR	417
Isborn, C.	COMP	132	Iyer, P.	MEDI	65	Jain, A.	ENVR	418
Isborn, C.	COMP	514	Iyer, S.S.	ANYL	193	Jain, A.	ENVR	419
Iscen, A.	COLL	547	Iyer, S.S.	CARB	26	Jain, A.	ENVR	420
Iscen, A.	COMP	310	Iyer Ganapathi, J.	PMSE	710	Jain, A.	TOXI	81
Iscia, G.	ENVR	227	Iyiola, O.	POLY	518	Jain, A.	CHED	241
Ishibashi, J.S.	ORGN	20	Ize-Iyamu, O.C.	ENVR	633	Jain, P.K.	ANYL	69
Ishibashi, J.S.	POLY	3	Ize-Iyamu, O.K.	ENVR	633	Jain, P.K.	PHYS	300
Ishibashi, T.	BIOL	35	Izmaylov, A.F.	PHYS	122	Jain, R.	MEDI	342
Ishida, Y.	POLY	375	Izumi, H.	COLL	205	Jain, S.	TOXI	61
Ishigami, A.	PMSE	693	Izvekova, A.	ENVR	653	Jain, S.	TOXI	105
Ishii, T.	AGFD	10	Izydorczak, A.	ANYL	166	Jain, S.	MEDI	385
Ishijima, A.	COLL	49	Izzo, F.	MEDI	272	Jain, S.S.	BIOL	191
Ishisaka, A.	AGFD	7	Izzo, R.M.	CHAS	34	Jain, S.S.	CHED	45
Ishitani, O.	CATL	189	Jaakkola, T.	COMSCI	7	Jain, V.	CATL	337
Ishizuki, K.	POLY	76	Jabed, M.A.	COMP	284	Jain, V.	TOXI	12
Isik, M.	COLL	696	Jabed, M.A.	COMP	287	Jakhesara, S.J.	AGFD	263
Isilak, M.E.	COLL	158	Jabed, M.A.	COMP	429	Jakob, D.S.	ANYL	22
Iskandar, B.	AGRO	87	Jablonskiene, J.	ENFL	528	Jakob, D.S.	ENFL	50
Iski, E.V.	COLL	150	Jackman, J.A.	COLL	438	Jakubek, R.S.	CHED	362
Islam, F.	MEDI	99	Jackman, J.A.	COLL	567	Jakubikova, E.	COMP	202
Islam, F.	MEDI	185	Jackson, B.	PHYS	172	Jakubikova, E.	COMP	522
Islam, F.	MEDI	227	Jackson, C.R.	PROF	31	Jakubikova, E.	INOR	545
Islam, M.S.	ENVR	425	Jackson, D.	AGRO	297	Jakubikova, E.	INOR	547
Islam, S.	COLL	750	Jackson, D.	ENVR	736	Jalal, M.A.	AGRO	198
Islam, S.	PMSE	252	Jackson, D.J.	COLL	515	Jalal, M.A.	AGRO	203
Islamoglu, T.	CATL	87	Jackson, E.	POLY	162	Jalalian, M.	PMSE	278
Islamoglu, T.	INOR	740	Jackson, E.M.	POLY	193	Jalbani, M.F.	CHED	328
Ismail, A.	PHYS	219	Jackson, E.	MEDI	21	Jalbert, M.	SCHB	25
Ismail, Z.Z.	ENVR	704	Jackson, J.E.	CATL	400	Jaleel, M.	MEDI	410
Isogai, A.	CELL	25	Jackson, J.E.	PHYS	318	Jalsa, N.K.	AGRO	180
Isono, T.	PMSE	124	Jackson, J.E.	PHYS	440	Jalsa, N.K.	CARB	45
Isono, T.	PMSE	261	Jackson, J.J.	MEDI	26	Jalsa, N.K.	CARB	126
Issa, F.	INOR	570	Jackson, J.	INOR	166	Jamal, A.	PHYS	575
Ito, A.	ORGN	564	Jackson, K.A.	CHED	136	James, A.	PHYS	189
Ito, A.	ORGN	574	Jackson, M.	CHED	397	James, D.E.	MEDI	330
Ito, H.	ORGN	6	Jackson, R.	CHED	230	James, E.J.	CHED	157
Ito, H.	ORGN	607	Jackson, S.H.	AGRO	198	James, J.J.	CHED	346
Ito, H.	ORGN	608	Jackson, S.H.	AGRO	203	James, J.J.	MEDI	127
Ito, H.	PMSE	693	Jackson, S.H.	AGRO	362	James, L.I.	MEDI	54
Ito, K.	PMSE	156	Jackson, W.M.	PHYS	368	James, L.I.	MEDI	138
Ito, K.	PMSE	152	Jacob, D.	GEOC	16	James, L.I.	MEDI	149
Ito, K.	PMSE	154	Jacob, P.	CINF	9	James, L.I.	MEDI	292
Ito, K.	PMSE	155	Jacob, A.	COMP	370	James, M.	NUCL	17
Ito, K.	PMSE	443	Jacobs, E.E.	POLY	346	James, S.	INOR	369
Ito, K.	PMSE	690	Jacobs, M.S.	PRES	19	James, S.	INOR	730
Ito, M.	MEDI	63	Jacobs, M.S.	WCC	14	James, S.	ORGN	220
Ito, M.	ORGN	161	Jacobsen, E.N.	CARB	132	James, T.	MEDI	309
Ito, T.	COLL	49	Jacobsen, S.D.	PHYS	190	James, T.	TOXI	104
Ito, T.	PMSE	758	Jacobson, A.	AGRO	231	Jameson, C.	CHED	54
Ito, T.	ANYL	218	Jacobson, D.	COMP	148	Jamieson, P.	MEDI	208
Ito, T.	ANYL	428	Jacobson, K.A.	MEDI	304	Jamieson, E.R.	CHED	170
Ito, T.	ANYL	500	Jacobson, K.A.	MEDI	385	Jamil, T.	COLL	410
Ito, Y.	ANYL	327	Jacobson, M.P.	MEDI	151	Jamir, J.	INOR	116
Ito, Y.	ORGN	394	Jacobson, S.	MEDI	26	Jamison, T.F.	COMSCI	2
Itzhak, T.	PHYS	394	Jacox, A.	ENVR	514	Jamison, T.F.	ORGN	127
Ivaldi, C.	CATL	84	Jacquemin, J.	INOR	730	Jamison, T.F.	ORGN	180
Ivan, B.	POLY	398	Jacques, F.	CHED	226	Jamison, T.F.	ORGN	267
Iván, B.	POLY	376	Jacques, V.	MEDI	317	Jamprakhon, T.	ENFL	272
Ivanenkov, Y.	COMP	96	Jacquet, S.	MEDI	10	Jamshidi, M.	ENFL	300
Ivanisevic, A.	COLL	598	Jaddou, J.	POLY	162	Jana, M.	CARB	55
Ivanov, A.	CELL	1	Jadernas, D.	GEOC	55	Jana, S.C.	PMSE	675
Ivanov, I.G.	ANYL	168	Jadhav, A.	MEDI	302	Jana, S.	MEDI	302
Ivanov, I.N.	COMP	20	Jadhav, B.	CATL	323	Janaky, C.	ENFL	400
Ivanov, I.N.	COMP	59	Jadhav, B.	ENFL	360	Janaky, C.	PHYS	447
Ivanov, I.N.	COMP	415	Jadhav, J.	GEOC	68	Janasek, D.	ENVR	123
Ivanov, I.N.	COMP	431	Jadhav, S.	COLL	72	Janes, M.	AGFD	28
Ivanova, B.I.	ENFL	538	Jaeger, K.	COMP	146	Janes, M.	AGFD	29
Ivanovic-Burmazovic, I.	INOR	234	Jaegers, N.	GEOC	46	Janet, J.	COMP	261
Ivarsson, M.	MEDI	14	Jaekle, F.	INOR	325	Janet, J.	COMP	338
Iversen, B.B.	ENFL	279	Jafari, M.	COLL	781	Janet, J.	COMP	347
Iversen, B.B.	ENFL	357	Jaffal, N.	CHED	80	Janet, J.	COMP	495
Ivy, J.	PROF	1	Jaffe, A.	INOR	73	Janeway, F.	INOR	702
Iwakami, S.	AGRO	101	Jaffes, P.	COLL	544	Jang, G.	POLY	103
Iwakuni, K.	PHYS	192	Jaffrey, S.	ANYL	338	Jang, H.	AGFD	300
Iwamoto, H.	ORGN	608	Jafri, S.	PMSE	446	Jang, H.	ENFL	25
Iwanicki, M.	CHED	259	Jafry, A.T.	PMSE	571	Jang, J.	ORGN	111
Iwaniec, B.W.	COMP	342	Jafta, C.J.	ENFL	524	Jang, J.	ORGN	112
Iwasa, S.	ORGN	101	Jagadesan, P.	POLY	438	Jang, M.	ENFL	81
Iwasaki, H.	PHYS	416	Jagannathan, J.R.	CHED	342	Jang, S.J.	PHYS	214
Iwasaki, H.	ORGN	580	Jagarnath, A.	CHED	192	Jang, S.J.	PHYS	418
Iwasaki, S.	MEDI	63	Jagdale, G.	ANYL	116	Jang, S.J.	PHYS	424
Iwasaki, Y.	PMSE	567	Jagdeep-Kaur, S.	ANYL	528	Jang, S.	ORGN	437
Iwata, T.	CELL	31	Jagdman, G.	ORGN	648	Jang, S.	ENFL	244

Jang, S.	PMSE	456	Jena, K.	ENFL	278	Jia, H.	COLL	6
Jang, Y.	PMSE	239	Jena, P.V.	POLY	390	Jia, J.	COMP	173
Jang, Y.	ENVR	102	Jenkins, D.M.	COLL	635	Jia, J.	COMP	548
Janhke, A.	PMSE	332	Jenkins, D.M.	INOR	596	Jia, J.	PMSE	638
Janik, M.	CATL	300	Jenkins, D.M.	NUCL	23	Jia, M.	COLL	35
Janik, M.J.	CATL	196	Jenkins, J.L.	CINF	119	Jia, M.	PMSE	703
Jankowska, E.	CARB	58	Jenks, T.C.	INOR	158	Jia, Q.	MEDI	333
Jannin, V.	COLL	546	Jennings, A.R.	POLY	209	Jia, Q.	ENFL	435
Jannin, V.	COLL	789	Jennings, J.	CHED	90	Jia, W.	ORGN	45
Janning, P.	BIOL	50	Jensen, A.W.	ORGN	249	Jia, X.	ENFL	118
Jannot, M.	POLY	203	Jensen, G.	AGFD	158	Jia, X.	INOR	19
Janowsky, A.	MEDI	162	Jensen, J.	TOXI	64	Jia, X.	INOR	20
Jansone-Popova, S.	NUCL	53	Jensen, K.F.	CINF	168	Jia, X.	ENVR	268
Jansone-Popova, S.	POLY	572	Jensen, K.F.	COMSCI	2	Jia, X.	COLL	346
Janssen, Y.	ENFL	518	Jensen, K.F.	COMSCI	7	Jia, X.	PMSE	632
Jantos, K.	MEDI	318	Jensen, L.	MPPG	84	Jia, X.	PMSE	813
Jantzi, S.	ANYL	292	Jensen, L.	PHYS	235	Jia, X.	POLY	32
Jaramillo, T.F.	CATL	36	Jensen, M.P.	COMP	416	Jia, X.	POLY	421
Jaramillo, T.F.	INOR	55	Jensen, M.P.	NUCL	55	Jia, X.	POLY	481
Jaramillo, T.F.	INOR	181	Jensen, M.P.	NUCL	62	Jia, X.	POLY	482
Jaramillo, T.F.	INOR	488	Jensen, S.	COMP	274	Jia, X.	ENFL	194
Jardim, A.C.	CINF	24	Jensen, S.	COMP	279	Jia, Z.	COLL	616
Jarman, K.	ANYL	290	Jensen, S.	COMP	519	Jia, Z.	COMP	465
Jarman, K.	ANYL	484	Jentoft, F.	CATL	463	Jiajia, D.	ENFL	313
Jarman, K.	ANYL	485	Jeon, B.	ENVR	174	Jian, J.	NUCL	53
Jaron-Becker, A.	PHYS	141	Jeon, B.	ENVR	236	Jian, P.	PMSE	524
Jaroniec, M.	ENVR	140	Jeon, B.	GEOC	68	Jian, T.	NUCL	52
Jaroniec, M.	I&EC	51	Jeon, H.	AGRO	340	Jiang, C.	ENFL	136
Jarsova, R.	ANYL	481	Jeon, H.	ORGN	129	Jiang, D.	INOR	379
Jarrald, R.	INOR	576	Jeon, I.	ENVR	778	Jiang, D.	ANYL	68
Jarrold, C.	PHYS	474	Jeon, J.	ORGN	37	Jiang, D.	CATL	195
Jarrold, C.	PHYS	482	Jeon, J.S.	COLL	294	Jiang, D.	CATL	234
Jarvis, C.M.	BIOL	130	Jeon, J.	ANYL	160	Jiang, D.	CATL	370
Jarvis, C.M.	BIOL	208	Jeon, J.	PMSE	489	Jiang, D.	CATL	428
Jarvis, C.M.	BIOL	213	Jeon, J.	PMSE	490	Jiang, D.	CATL	450
Jarvis, T.S.	ORGN	664	Jeon, S.	ENVR	156	Jiang, D.	COMP	231
Jasanoff, A.	INOR	432	Jeon, S.	COLL	39	Jiang, D.	AGFD	207
Jaseer, E.	INOR	25	Jeon, Y.	AGRO	280	Jiang, F.	CATL	479
Jasinski, J.P.	CHED	43	Jeong, E.	POLY	103	Jiang, G.	ENVR	212
Jasinski, J.P.	CHED	249	Jeong, G.	PMSE	411	Jiang, G.	ENVR	687
Jasinski, J.P.	INOR	399	Jeong, G.	PMSE	437	Jiang, G.	ENVR	694
Jaskaniec, S.	INOR	539	Jeong, G.	PMSE	463	Jiang, G.	ENVR	695
Jassby, D.	ENVR	519	Jeong, G.	PMSE	559	Jiang, G.	ENVR	696
Jassby, D.	ENVR	672	Jeong, H.	BIOL	31	Jiang, H.	PMSE	361
Jasti, R.	CHED	303	Jeong, H.	CATL	373	Jiang, H.	COMP	316
Jasti, R.	ORGN	401	Jeong, J.	ENFL	223	Jiang, J.	CATL	33
Jaudzems, G.	AGFD	11	Jeong, J.	ENFL	224	Jiang, J.	CATL	191
Jaudzems, G.	AGFD	43	Jeong, J.	ENFL	225	Jiang, J.	ENFL	35
Javanmard, M.	ANYL	326	Jeong, J.	ENFL	229	Jiang, J.	ENVR	724
Javdan, S.B.	BIOL	278	Jeong, J.	ENFL	510	Jiang, J.	GEOC	14
Javed, H.	ENFL	22	Jeong, S.	CINF	98	Jiang, J.	COLL	256
Javier-Jimenez, D.	INOR	690	Jeong, S.	COLL	327	Jiang, J.	COLL	257
Jawad, K.M.	PHYS	175	Jeong, S.	ENFL	175	Jiang, J.	CATL	351
Jawaid, A.	POLY	179	Jeong, S.	ANYL	104	Jiang, J.	I&EC	59
Jawhari, A.	CATL	504	Jeong, S.	ANYL	471	Jiang, J.	AGRO	84
Jaworski, J.N.	COMSCI	2	Jeong, W.	PMSE	411	Jiang, J.	POLY	43
Jay, R.	PHYS	108	Jeong, W.	PMSE	437	Jiang, J.	POLY	508
Jay, R.M.	PHYS	159	Jeong, W.	PMSE	463	Jiang, J.	PHYS	86
Jayachandran, M.	BIOL	85	Jeong, W.	PMSE	559	Jiang, J.	PHYS	137
Jayakody, J.	PMSE	67	Jeong, Y.M.	BIOL	69	Jiang, K.	CATL	506
Jayakody, L.N.	CATL	403	Jeoung, S.	BIOL	37	Jiang, K.	ENFL	452
Jayakody, N.K.	PMSE	67	Jepsen, T.H.	MEDI	155	Jiang, L.	PMSE	154
Jayakrishnan, A.	PMSE	779	Jeric, I.	ORGN	294	Jiang, L.	PMSE	443
Jayaprakasha, G.K.	AGFD	60	Jermakowicz, A.	CINF	141	Jiang, L.	ENVR	668
Jayaprakasha, G.K.	AGFD	343	Jerome, S.	COMP	295	Jiang, L.	MPPG	46
Jayaraman, A.	PMSE	298	Jerome, S.V.	COMP	449	Jiang, L.	BIOL	109
Jayaraman, A.	COLL	157	Jerre, A.	MEDI	155	Jiang, M.	CHED	448
Jayaraman, S.	COLL	433	Jeskie, K.B.	PRES	3	Jiang, P.	CATL	279
Jayaraman Rukmani, S.	PMSE	541	Jewett, M.C.	I&EC	30	Jiang, Q.	ANYL	232
Jayawickramage, R.	ENFL	294	Jha, S.	COMP	376	Jiang, Q.	PMSE	278
Jaye, J.	POLY	523	Jhee, S.	MEDI	330	Jiang, R.	AGRO	285
Jayne, R.K.	PMSE	480	Jheng, Y.	ORGN	415	Jiang, S.	MEDI	61
Jazzar, R.	INOR	618	Jhunjhunwala, A.	COLL	489	Jiang, S.	PMSE	187
Jazzar, R.	INOR	621	Ji, H.	ENFL	39	Jiang, S.	PMSE	318
Je, L.	ORGN	413	Ji, H.	INOR	82	Jiang, S.	PMSE	590
Jean-Fulcrand, A.	PMSE	363	Ji, H.	INOR	738	Jiang, S.	PMSE	384
Jeanjulien, C.	AGFD	121	Ji, H.	MEDI	447	Jiang, S.	PMSE	648
Jecs, E.	AGRO	87	Ji, H.	PMSE	576	Jiang, S.	PMSE	655
Jee, J.	ORGN	267	Ji, L.	ORGN	587	Jiang, S.	BIOL	25
Jeevarathinam, A.	ANYL	221	Ji, L.	MEDI	60	Jiang, S.	BIOL	199
Jeffries, B.	POLY	607	Ji, L.	MEDI	87	Jiang, S.	AGRO	360
Jeffries-El, M.	ORGN	60	Ji, N.	MEDI	150	Jiang, S.	AGFD	136
Jeffries-El, M.	ORGN	124	Ji, R.	AGRO	162	Jiang, S.	ENFL	478
Jeffries-El, M.	ORGN	417	Ji, R.	ENVR	126	Jiang, S.	ENFL	408
Jeffries-El, M.	ORGN	562	Ji, S.	TOXI	47	Jiang, S.	PMSE	112
Jeffries-El, M.	ORGN	563	Ji, X.	PMSE	323	Jiang, T.	INOR	313
Jeffries-El, M.	POLY	330	Ji, X.	PMSE	327	Jiang, W.	COMP	221
Jegal, J.	CARB	30	Ji, X.	POLY	435	Jiang, W.	COMP	464
Jegal, J.	CARB	31	Ji, X.	ENFL	346	Jiang, W.	AGRO	77
Jeliazkova, N.	AGRO	86	Jia, N.	BIOL	108	Jiang, W.	COLL	130
Jelley, R.	AGFD	347	Jia, C.	I&EC	52	Jiang, W.	MEDI	351
Jemal, M.	CHED	297	Jia, D.	CELL	23	Jiang, X.	ENVR	441
Jemison, A.	ORGN	142	Jia, G.	PHYS	532	Jiang, X.	COLL	328

Jiang, Y.	COMP	323	Jing, C.	ENVR	690	Johnson, J.A.	POLY	478
Jiang, Y.	CATL	127	Jing, H.	ENVR	98	Johnson, J.A.	POLY	516
Jiang, Y.	COLL	199	Jing, Y.	ENFL	44	Johnson, J.A.	POLY	568
Jiang, Y.	COLL	208	Jing, Y.	BIOL	35	Johnson, J.	COLL	569
Jiang, Y.	COLL	536	Jinn, W.S.	COLL	530	Johnson, J.	MEDI	278
Jiang, Y.	PHYS	150	Jinnai, H.	PMSE	86	Johnson, J.	MEDI	333
Jiang, Y.	PMSE	40	Jinnai, H.	PMSE	360	Johnson, J.	MEDI	359
Jiang, Y.	POLY	34	Jishkariani, D.	COLL	217	Johnson, J.C.	PMSE	23
Jiang, Y.	POLY	42	Jishkariani, D.	COLL	674	Johnson, K.A.	CHED	16
Jiang, Y.	POLY	87	Jishkariani, D.	INOR	330	Johnson, K.A.	CHED	21
Jiang, Y.	BIOL	96	Jishkariani, D.	INOR	417	Johnson, K.P.	ANYL	398
Jiang, Y.	BIOL	313	Jishkariani, D.	INOR	719	Johnson, L.	COMP	288
Jiang, Y.	INOR	71	Jitianu, A.	COLL	720	Johnson, L.M.	COLL	488
Jiang, Z.	PMSE	700	Jitianu, A.	INOR	632	Johnson, L.	CHED	180
Jiang, Z.	CHED	88	Jitianu, A.	PMSE	729	Johnson, M.	POLY	344
Jiang, Z.	COMP	575	Jitianu, M.	INOR	632	Johnson, M.	POLY	357
Jiang, Z.	INOR	496	Jitianu, M.	PMSE	729	Johnson, M.A.	PHYS	259
Jiang, Z.	COLL	259	Jo, K.	ENVR	792	Johnson, M.	PHYS	467
Jiang, Z.	COLL	218	Jo, S.	COLL	304	Johnson, M.S.	PHYS	233
Jiang, Z.	COLL	437	Jo, S.	AGRO	325	Johnson, M.G.	BIOL	242
Jiankun, Z.	ENFL	302	Jo, S.	AGRO	326	Johnson, M.A.	COLL	726
Jiao, F.	CATL	214	Jo, S.	AGRO	327	Johnson, M.D.	INOR	230
Jiao, F.	CATL	372	Jo, S.	AGRO	328	Johnson, M.	INOR	292
Jiao, J.	ENVR	154	Jo, S.	COMP	579	Johnson, M.	CHED	276
Jiao, Y.	ENVR	336	Jo, S.	MEDI	251	Johnson, N.A.	INOR	639
Jiao, Y.	ENVR	642	Jo, W.	ENFL	74	Johnson, N.A.	INOR	703
Jiao, Y.	PHYS	355	Jo, W.	PMSE	557	Johnson, N.	COLL	600
Jiawei, Z.	CATL	358	Jo, Y.	ENVR	567	Johnson, P.V.	PHYS	592
Jibuti, G.	CHED	231	Jo, Y.	COLL	207	Johnson, P.	AGRO	212
Jilani, S.	CATL	259	Joaland, B.	PHYS	372	Johnson, P.	AGRO	251
Jiménez, A.	CHED	347	Joannou, M.V.	INOR	26	Johnson, Q.	CHED	217
Jimenez De Aberasturi, D.	COLL	28	Jobin, C.	AGFD	315	Johnson, Q.	COLL	262
Jiménez Martínez, D.M.	CHED	286	Jochim, B.	PHYS	318	Johnson, Q.R.	CHED	402
Jin, B.	ENFL	136	Jochim, B.	PHYS	440	Johnson, Q.R.	COLL	751
Jin, B.	ENFL	336	Joenathan, A.T.	PMSE	424	Johnson, R.D.	POLY	293
Jin, B.	COLL	409	Joester, D.	GEOC	47	Johnson, R.	BIOL	198
Jin, B.	COLL	594	Jogini, V.	COMP	69	Johnson, R.	BIOL	223
Jin, C.	POLY	511	Johannes, J.W.	MEDI	70	Johnson, R.	CHED	185
Jin, F.	ENFL	133	Johannes, M.	ENFL	351	Johnson, R.	CHED	187
Jin, F.	ENFL	136	Johansen, S.L.	PHYS	503	Johnson, R.	ENVR	376
Jin, F.	ENFL	336	John, C.T.	MEDI	279	Johnson, R.A.	MEDI	162
Jin, H.	ENVR	530	John, G.	AGFD	284	Johnson, S.	AGFD	50
Jin, H.	PMSE	704	John, G.	AGFD	345	Johnson, T.	CHED	174
Jin, H.	POLY	77	John, G.	ENVR	332	Johnson-Glauch, N.	CHED	61
Jin, J.	MEDI	280	John, G.	ENVR	338	Johnson-Salyard, T.L.	TOXI	106
Jin, J.	MEDI	345	John, G.	PHYS	277	Johnston, C.T.	GEOC	24
Jin, J.	ENVR	631	John, V.T.	COLL	5	Johnston, K.	COLL	675
Jin, J.	ENVR	632	Johns, J.	ANYL	331	Johnston, K.	INOR	424
Jin, J.	ENVR	691	Johns, P.	PHYS	392	Johnston, L.	COLL	136
Jin, J.	ENFL	259	Johnson, A.T.	CHED	44	Johnston, M.A.	COLL	592
Jin, L.	COLL	660	Johnson, B.	COLL	401	Johnston, M.A.	COMP	43
Jin, L.	COLL	676	Johnson, B.	COLL	78	Johnston, M.A.	COMP	46
Jin, L.	ENFL	281	Johnson, B.	INOR	236	Johnston, M.A.	COMP	236
Jin, L.	ENFL	458	Johnson, C.A.	ENVR	291	Johnston, M.A.	COMP	461
Jin, L.	ENFL	460	Johnson, C.	PMSE	202	Johnston, M.D.	PHYS	506
Jin, L.	MEDI	244	Johnson, C.J.	INOR	356	Joho, D.	MEDI	78
Jin, M.	AGRO	325	Johnson, C.J.	PHYS	423	Jokerst, J.V.	ANYL	221
Jin, M.	AGRO	326	Johnson, C.W.	CATL	403	Jokerst, J.V.	COLL	367
Jin, M.	AGRO	327	Johnson, C.R.	INOR	760	Jokerst, J.V.	COLL	489
Jin, M.	AGRO	328	Johnson, D.W.	ANYL	77	Jokerst, J.V.	COLL	589
Jin, P.	ENFL	461	Johnson, D.W.	INOR	264	Jokerst, J.V.	COLL	673
Jin, Q.	ANYL	271	Johnson, D.K.	CATL	363	Jokerst, J.V.	TOXI	88
Jin, Q.	CATL	451	Johnson, E.	AGRO	151	Jokerst, J.V.	COLL	350
Jin, R.	COLL	105	Johnson, E.R.	COMP	27	Jolin, W.	ENVR	661
Jin, R.	COLL	491	Johnson, E.R.	COMP	547	Jonah, T.	INOR	430
Jin, R.	COLL	493	Johnson, G.L.	MEDI	187	Jonas, A.M.	CATL	513
Jin, R.	COLL	494	Johnson, G.E.	ANYL	82	Jonas, A.M.	COLL	123
Jin, R.	COLL	735	Johnson, G.E.	ANYL	85	Jonas, D.M.	PHYS	154
Jin, S.	COLL	327	Johnson, G.E.	ANYL	86	Jonas, O.	MEDI	89
Jin, S.	ENFL	437	Johnson, J.	CHED	132	Jonas, S.J.	COLL	53
Jin, S.	ENFL	503	Johnson, J.	ENVR	72	Jonas, S.J.	COLL	434
Jin, S.	PMSE	820	Johnson, J.	ENVR	373	Jonas, S.J.	COLL	567
Jin, S.	CELL	60	Johnson, J.	PMSE	394	Jonas, S.J.	COLL	698
Jin, S.	PMSE	546	Johnson, J.A.	ANYL	254	Jonas, S.J.	PMSE	282
Jin, T.	ANYL	219	Johnson, J.A.	PMSE	40	Jones, A.	MPPG	69
Jin, T.	AGFD	268	Johnson, J.A.	PMSE	42	Jones, A.	PHYS	100
Jin, T.	AGFD	267	Johnson, J.A.	PMSE	43	Jones, A.L.	PHYS	428
Jin, T.	AGFD	246	Johnson, J.A.	PMSE	84	Jones, B.	POLY	236
Jin, W.	AGFD	207	Johnson, J.A.	PMSE	117	Jones, C.M.	ANYL	545
Jin, W.	COMSCI	7	Johnson, J.A.	PMSE	375	Jones, C.R.	ORGN	554
Jin, W.	PMSE	740	Johnson, J.A.	PMSE	379	Jones, C.R.	ORGN	604
Jin, X.	MEDI	336	Johnson, J.A.	PMSE	611	Jones, C.W.	COLL	420
Jin, Y.	COMP	516	Johnson, J.A.	PMSE	612	Jones, C.W.	ENFL	369
Jin, Z.	COLL	709	Johnson, J.A.	POLY	34	Jones, C.W.	I&E	25
Jin, Z.	MEDI	84	Johnson, J.A.	POLY	42	Jones, C.L.	BIOL	217
Jin, K.	PMSE	816	Johnson, J.A.	POLY	87	Jones, D.	POLY	325
Jin, K.	POLY	205	Johnson, J.A.	POLY	111	Jones, D.R.	CHED	437
Jindra, S.	GEOC	37	Johnson, J.A.	POLY	133	Jones, D.	ORGN	464
Jinek, M.	COMP	265	Johnson, J.A.	POLY	142	Jones, D.P.	INOR	59
Jinek, M.	COMP	543	Johnson, J.A.	POLY	156	Jones, D.P.	MEDI	244
Jing, B.	POLY	53	Johnson, J.A.	POLY	231	Jones, D.	ENVR	267
Jing, C.	ENVR	66	Johnson, J.A.	POLY	240	Jones, E.	AGRO	102
Jing, C.	ENVR	659	Johnson, J.A.	POLY	424	Jones, G.O.	CHED	361

Jones, G.	CINF	86	Ju, L.	I&EC	36	Kadokawa, J.	PMSE	538
Jones, J.L.	ENVR	181	Ju, T.	ANYL	110	Kadokawa, J.	PMSE	548
Jones, K.	MEDI	204	Juarez, O.	COMP	64	Kadokawa, J.	PMSE	572
Jones, K.	MEDI	437	Juaristi, E.	ORGN	209	Kaestner, M.	AGRO	161
Jones, L.	MEDI	28	Judd, T.	MEDI	322	Kaewnok, N.	INOR	551
Jones, M.A.	BIOL	237	Judzewitsch, P.	POLY	88	Kafal, A.P.	MEDI	1
Jones, M.	AGRO	248	Jue, W.	ENVR	24	Kafle, D.	AGFD	121
Jones, N.	MEDI	70	Jugulam, M.	AGRO	104	Kagan, C.R.	COLL	217
Jones, N.	ORGN	268	Juhasz, A.	ENVR	183	Kagan, C.R.	COLL	368
Jones, R.C.	ENVR	708	Jui, M.	POLY	459	Kagan, C.R.	COLL	674
Jones, R.L.	AGRO	244	Juliano, S.A.	BIOL	65	Kagan, C.R.	INOR	330
Jones, R.	MEDI	151	Juliano, S.A.	MEDI	91	Kagan, C.R.	INOR	331
Jones, R.V.	COLL	332	Julien, P.	INOR	243	Kagan, C.R.	PHYS	459
Jones, R.V.	YCC	24	Julien, P.A.	ORGN	432	Kahol, P.K.	ENFL	240
Jones, R.L.	ANYL	547	Juminaga, A.	I&EC	30	Kahol, P.K.	ENFL	241
Jones, R.	AGRO	227	Jun, J.V.	BIOL	125	Kahol, P.K.	ENFL	242
Jones, R.	AGRO	362	Jun, J.V.	ORGN	400	Kahr, B.E.	HIST	13
Jones, S.	ORGN	95	Jun, Y.	ENVR	16	Kai, W.	CATL	348
Jones, S.J.	TOXI	44	Jun, Y.	GEOC	2	Kaim, W.	INOR	499
Jones, T.	ENFL	387	Jung, A.	COLL	165	Kairouz, V.	ORGN	409
Jones, V.S.	AGFD	38	Jung, A.	COLL	221	Kais, S.	PHYS	46
Jones, W.E.	PMSE	804	Jung, A.	COLL	306	Kais, S.	PHYS	183
Jones, W.D.	INOR	275	Jung, E.	AGFD	120	Kais, S.	PHYS	562
Jones, W.D.	INOR	378	Jung, H.	AGRO	280	Kaise, C.	COLL	670
Jones-Jefferson, T.	AGRO	122	Jung, H.	ENVR	414	Kaiser, A.L.	COLL	42
Jongs Prather, K.L.	ENVR	202	Jung, H.	ENVR	532	Kaiser, D.	COLL	20
Jongkees, S.	CARB	103	Jung, J.H.	MEDI	135	Kaiser, H.J.	ANYL	529
Jonnalagadda, S.C.	MEDI	218	Jung, J.	POLY	469	Kaiser, K.	CHED	345
Jonnalagadda, S.C.	MEDI	219	Jung, J.	ENVR	778	Kaiser, N.	BIOL	50
Jonsson, H.	CATL	46	Jung, J.	AGRO	280	Kaiser, R.	PHYS	85
Joo, G.	ENVR	498	Jung, J.	BIOL	226	Kajdan, T.	AGRO	221
Joo, G.	ENVR	743	Jung, J.	BIOL	230	Kaku, T.	MEDI	314
Joo, J.	ORGN	111	Jung, J.	INOR	468	Kalaga, K.	ENFL	406
Joo, J.	ORGN	112	Jung, J.	PMSE	487	Kalagara, S.	ORGN	463
Joo, J.	ORGN	559	Jung, J.	COLL	731	Kalash, L.	COMP	437
Joo, S.	ENVR	195	Jung, K.	POLY	569	Kalathottukaren, M.	PMSE	791
Joo, S.	ENVR	217	Jung, K.	PMSE	503	Kalb, S.	ANYL	489
Joo, S.	ENVR	594	Jung, M.	CINF	27	Kaldor, S.	MEDI	370
Jordan, A.M.	MEDI	25	Jung, M.E.	MEDI	146	Kaleuati, K.M.	CHED	26
Jordan, D.	CHED	50	Jung, M.E.	MEDI	212	Kalgutkar, A.S.	MEDI	151
Jordan, D.	CHED	171	Jung, N.	CINF	29	Kali, G.	POLY	398
Jordan, D.	INOR	568	Jung, S.	ORGN	603	Kaliakin, D.S.	PHYS	182
Jordan, J.H.	ORGN	516	Jung, W.	CATL	459	Kalin, A.	POLY	268
Jordan, N.	MEDI	445	Jung, Y.	ENVR	353	Kalinichev, A.G.	GEOC	23
Jordan, N.	NUCL	28	Jung, Y.	MEDI	125	Kalinovsky, Y.	INOR	688
Jordan, R.F.	INOR	339	Jung, Y.	MEDI	202	Kalish, N.	PHYS	377
Jordan, R.H.	AGRO	330	Jung, Y.	ENVR	532	Kaller, M.R.	MEDI	322
Jorens, P.	ENVR	714	Junge, T.	AGRO	313	Källström, K.	NUCL	30
Jorgensen, K.A.	ORGN	352	Jungjohann, K.L.	PRES	31	Kalman, S.E.	CHED	247
Jorgensen, W.L.	CHED	379	Jungjohann, K.	PRES	30	Kalman, S.E.	INOR	668
Jorgensen, W.L.	CINF	89	Jun-Xiang, C.	INOR	459	Kalman, S.E.	INOR	679
Jorolan, J.	INOR	697	Juratli, L.	COLL	184	Kalogerakis, K.	PHYS	368
Jose, N.	CATL	251	Jurca, T.	INOR	144	Kalow, J.A.	ORGN	30
Jose, T.	MPPG	26	Juretic, D.	COMP	559	Kalow, J.A.	POLY	3
Joseph, C.	NUCL	48	Juriss, S.S.	NUCL	60	Kalow, J.A.	POLY	130
Joseph, J.	POLY	155	Jurj, A.	MEDI	242	Kalra, A.	INOR	691
Joseph, J.	BIOL	126	Jurng, S.	ANYL	252	Kalra, S.S.	ENVR	377
Joseph, T.	AGRO	185	Jurng, S.	ANYL	522	Kalugin, N.	GEOC	12
Josephson, D.B.	AGFD	215	Jurng, S.	PHYS	61	Kalyon, D.M.	PMSE	710
Josephson, D.B.	AGFD	216	Jursic, B.S.	MEDI	449	Kalyoncu, E.	COLL	158
Josephson, L.	MPPG	69	Jurss, J.W.	INOR	557	Kamalinia, G.	BIOL	45
Joshi, A.	COLL	761	Jusko, P.	PHYS	367	Kamat, P.V.	COLL	360
Joshi, B.	BIOL	218	Justen, A.	BIOL	288	Kamat, P.V.	COMP	199
Joshi, C.G.	AGFD	263	Justino, G.C.	MEDI	157	Kamat, P.V.	PHYS	447
Joshi, D.	ORGN	537	Justino, J.C.	MEDI	164	Kamath, R.V.	MEDI	10
Joshi, J.N.	ENFL	369	Justino, J.C.	TOXI	62	Kamath, R.	ENVR	491
Joshi, N.S.	BIOL	127	Justino, M.C.	TOXI	62	Kamath, R.	ENVR	608
Joshi, R.	CELL	18	Juurlink, L.	COLL	150	Kamathewatta, N.J.	MPPG	106
Joshi, R.	CATL	511	Kaafarani, B.R.	ORGN	681	Kamber, D.N.	ORGN	117
Joshi, S.	PMSE	785	Kaar, J.	COLL	773	Kambhampati, S.	PMSE	686
Joshi, T.	INOR	416	Kabanov, A.	CINF	143	Kambhampati, S.	PMSE	783
Joshi, V.	CHED	197	Kabe, T.	CELL	53	Kamburugamuwe, S.	CARB	44
Joshi-Imre, A.	PMSE	392	Kabelac, M.	GEOC	29	Kamcev, J.	PMSE	208
Jouaneh, T.	POLY	337	Kabengi, N.	ENVR	267	Kamcev, J.	PMSE	301
Joubert, V.	ANYL	287	Kabengi, N.	GEOC	32	Kamenetska, M.	COLL	515
Joung, J.	AGFD	339	Kaberov, L.	POLY	315	Kamenetska, M.	COLL	652
Jouni, H.	CHED	80	Kabir, S.	ENVR	14	Kamenetska, M.	PHYS	22
Jouny, M.	CATL	214	Kable, S.	PHYS	191	Kameoka, J.	ENVR	188
Jouny, M.	CATL	372	Kachigamba, D.	AGRO	213	Kameoka, S.	CATL	76
Jourdain, A.	POLY	108	Kaczocha, M.	MEDI	175	Kamerlin, S.C.	BIOL	68
Jourdain, A.	POLY	246	Kadam, S.	GEOC	68	Kamerlin, S.C.	COMP	401
Journet, M.	ORGN	265	Kadar, S.	CHED	330	Kameta, N.	ANYL	500
Journet, M.	ORGN	304	Kaddissy, J.	PHYS	476	Kaminski, N.	NUCL	17
Jovanovic, M.	PHYS	328	Kaddissy, J.A.	PHYS	475	Kaminski, N.	NUCL	19
Jovanovska, A.	MEDI	279	Kaddoumi, A.	AGFD	20	Kaminski, M.P.	ENFL	308
Jow, R.	ENFL	351	Kader, M.	ANYL	131	Kamiuchi, N.	CATL	23
Joy, J.	PHYS	329	Kaderiya, B.	PHYS	318	Kamiya, N.	COLL	543
Joyce, L.A.	ANYL	560	Kaderiya, B.	PHYS	440	Kammeijer, G.	ANYL	422
Joyce, L.A.	MEDI	279	Kadir, V.M.	COLL	490	Kamminga, L.	ENVR	712
Joyce, L.A.	ORGN	523	Kadirvelraj, R.	CARB	93	Kamon, T.	MEDI	73
Joyce, T.	PHYS	141	Kadish, D.	ORGN	347	Kamras, B.L.	INOR	473
Ju, C.	POLY	409	Kadiyalaa, U.	PMSE	283	Kamstra, J.	ENVR	712
Ju, J.	BIOL	31	Kadokawa, J.	AGFD	282	Kan, A.T.	I&EC	46

Kan, T.	ENFL	304	Kapelner, R.	POLY	17	Kasi, R.	COLL	278
Kan, Z.	AGFD	64	Kapelner, R.	POLY	290	Kasi, R.	COLL	411
Kanabar, D.	MEDI	183	Kapelner, R.	POLY	404	Kasi, R.	PMSE	471
Kanan, M.	ENFL	329	Kapetanakis, A.	PMSE	111	Kasi, R.	PMSE	530
Kanasty, R.	PMSE	518	Kapilov-Buchman, K.	POLY	502	Kasi, R.	PMSE	699
Kanatzidis, M.G.	INOR	441	Kaplan, C.	PHYS	524	Kasi, R.	POLY	423
Kanazawa, J.	ORGN	135	Kaplan, D.	NUCL	32	Kasko, A.M.	CELL	33
Kanczler, J.M.	PMSE	582	Kaplan, D.	NUCL	43	Kasko, A.M.	COLL	487
Kandel, S.	INOR	641	Kaplan, D.L.	ANYL	272	Kasko, A.M.	PMSE	771
Kandhola, G.	CELL	19	Kaplan, D.L.	PMSE	726	Kaspar, T.	NUCL	80
Kandi-Masakidi, A.	CINF	19	Kapalos, J.	COLL	290	Kasper, J.M.	COMP	52
Kandiyoti, R.	ENVR	223	Kapoor, M.	CATL	500	Kasper, J.M.	COMP	206
Kandler, R.	BIOL	196	Kapteyn, H.	PHYS	197	Kasper, J.M.	PHYS	120
Kane, A.	AGFD	277	Kapteyn, H.	PHYS	386	Kasper, J.M.	PHYS	279
Kaneco, S.	CATL	287	Kapur, P.	COLL	56	Kasper, J.M.	CINF	49
Kaneco, S.	ENVR	623	Kapustin, E.A.	INOR	676	Kaspi-Kaneti, A.W.	ORGN	590
Kanega, R.	CATL	130	Kar, M.	ENFL	113	Kaspi-Kaneti, A.W.	POLY	96
Kaneko, T.	COLL	670	Kar, S.	I&EC	16	Kasprzyk, L.	PHYS	298
Kaner, P.	POLY	475	Karadkhelkar, N.M.	MEDI	107	Kasry, A.	PHYS	298
Kaneza, N.	ANYL	391	Karagoze, F.	MEDI	145	Kassel, W.S.	INOR	225
Kang, B.	COLL	530	Karahan, H.	MEDI	142	Kassel, W.S.	INOR	517
Kang, C.	ORGN	150	Karakalos, S.G.	CATL	390	Kassel, W.S.	INOR	520
Kang, C.	ENVR	255	Karaki, S.	AGFD	90	Kassner, P.	MEDI	26
Kang, C.	INOR	189	Karakoti, A.	COLL	613	Kastl, A.	INOR	456
Kang, C.	MEDI	440	Karam, L.	CATL	380	Kastl, C.	PHYS	493
Kang, C.	MEDI	441	Karamalidis, A.	ENVR	799	Kastl, C.	PHYS	544
Kang, D.	CARB	49	Karaman, B.	CINF	27	Katan, C.	INOR	441
Kang, D.	ENFL	96	Karanastasis, A.	PMSE	200	Kataoka, K.	COLL	141
Kang, D.	PMSE	456	Karandikar, P.	COLL	749	Kataoka, K.	PMSE	757
Kang, E.	COLL	572	Karasev, D.	COLL	401	Kataura, H.	ORGN	404
Kang, E.	COLL	780	Karatjas, A.G.	MEDI	102	Katayama, T.	PHYS	217
Kang, E.	CATL	459	Karaveg, K.	CHED	102	Katayama, Y.	CATL	99
Kang, E.	ORGN	342	Karawadeniya, B.I.	CARB	93	Katayama, Y.	CATL	218
Kang, E.	ORGN	621	Karayaylali, P.	ANYL	409	Katayama, Y.	PHYS	60
Kang, G.	BIOL	142	Karbarz, E.	PHYS	60	Katayama, Y.	INOR	658
Kang, H.	PMSE	456	Kardelis, V.	MEDI	26	Kati, W.	MEDI	22
Kang, H.	COLL	58	Kareem, H.	POLY	387	Katner, A.	ENVR	149
Kang, H.	INOR	135	Kareem, H.	CATL	19	Kato, K.	PMSE	154
Kang, H.	ENFL	282	Kareem, H.	ENVR	607	Kato, K.	ENVR	332
Kang, H.	POLY	409	Kareem, H.	ENVR	652	Kato, K.	ENVR	338
Kang, J.	MEDI	166	Karg, M.	COLL	343	Kato, T.	MEDI	378
Kang, J.	MEDI	166	Karganova, G.	MEDI	238	Kato, T.	PHYS	319
Kang, J.	ORGN	447	Karim, A.	ENVR	599	Kato, Y.	ANYL	425
Kang, J.	ORGN	452	Karim, A.	ENVR	599	Katsaras, J.	ANYL	425
Kang, J.	ENFL	510	Karim, A.	PMSE	120	Katsaras, J.	COLL	664
Kang, J.	ENFL	510	Karim, A.	PMSE	259	Katsenis, A.D.	COMP	538
Kang, J.	ENFL	511	Karim, A.	I&EC	30	Katsenis, A.D.	ORGN	435
Kang, J.	ENFL	511	Karim, A.M.	CATL	422	Katsenis, A.D.	ORGN	436
Kang, J.	CATL	22	Karim, N.	ANYL	281	Katsenovich, Y.	ENVR	465
Kang, J.	ENVR	353	Karimi, A.	ANYL	40	Katsenovich, Y.	I&EC	34
Kang, J.	PMSE	254	Karimi, M.	PHYS	541	Katsenovich, Y.	NUCL	34
Kang, K.	CELL	54	Karimineghlani, P.	PMSE	183	Katsiotis, M.	CATL	509
Kang, K.	COLL	327	Karimineghlani, P.	PMSE	523	Katsumata, C.P.	ENVR	566
Kang, M.	ENVR	80	Karl, J.P.	AGFD	310	Katsumata, H.	CATL	287
Kang, M.	ENFL	230	Karl, J.P.	AGFD	311	Katsumata, H.	ENVR	623
Kang, M.	ENFL	231	Karnaik, E.	PHYS	484	Katsumata-Tsuboi, R.	AGFD	5
Kang, N.	PMSE	332	Karnik, R.	ENVR	52	Katsuyama, A.	ORGN	156
Kang, N.	ENFL	251	Karnik, R.	ENVR	124	Kattar, S.	MEDI	342
Kang, Q.	COLL	499	Karolis, D.	ENFL	420	Kattel, S.	CATL	230
Kang, S.J.	ENFL	259	Karoonuthaisiri, N.	AGFD	296	Katyal, P.	POLY	318
Kang, S.J.	ENFL	260	Karp, G.M.	MEDI	286	Katz, E.	MEDI	206
Kang, S.	COMP	181	Karp, J.	MPPG	73	Katz, E.	COLL	471
Kang, S.	COMP	490	Karp, P.	COMSCI	6	Katz, I.	CINF	90
Kang, S.	INOR	391	Karpenkov, A.	COLL	296	Katz, J.	MEDI	4
Kang, S.	PMSE	571	Karpov, E.	PMSE	398	Katz, J.	MEDI	342
Kang, T.	ENVR	609	Karppinen, A.	COLL	69	Katz, L.E.	ENVR	288
Kang, T.	COLL	603	Karppinen, M.	MPPG	12	Kauffman, D.	CATL	256
Kang, T.	ORGN	474	Karra, V.	COLL	197	Kaufhold, S.	ENFL	544
Kang, T.	ANYL	140	Karsai, A.	COLL	647	Kaufman, L.	PMSE	201
Kang, T.	ANYL	154	Karsili, T.	COLL	647	Kaul, A.B.	INOR	203
Kang, Y.	ENFL	186	Karthikeyan, G.	PHYS	70	Kaundun, S.S.	AGRO	74
Kang, Y.	ENFL	186	Karthikeyan, G.	INOR	127	Kaur, A.	PMSE	58
Kang, Z.	ENFL	401	Karthikeyan, M.	CINF	156	Kaur, A.	PMSE	58
Kang, Z.	POLY	469	Karu, N.	CINF	133	Kaur, G.	CINF	26
Kangkaew, L.	AGFD	296	Karukirichi, K.R.	CINF	133	Kaur, K.	CHED	141
Kania, R.	MEDI	18	Karunadasa, H.	BIOL	264	Kaur, K.	COLL	195
Kania, R.	MEDI	282	Karunadasa, H.	INOR	73	Kaur, K.	COLL	195
Kanikkannan, L.	CHED	46	Karunanayake, A.G.	ENVR	452	Kaur, M.	INOR	399
Kanipes-Spinks, M.	INOR	109	Karunanayake, A.	ANYL	423	Kaur, P.	ORGN	473
Kanipes-Spinks, M.	WCC	25	Karunarathna, J.	INOR	536	Kaur, R.	COLL	96
Kanitkar, S.	CATL	134	Karunarathna, J.	INOR	536	Kaur, R.	COLL	96
Kanitkar, S.	ENFL	98	Karunarathna, M.	CELL	5	Kaur, S.	ORGN	171
Kanj, M.	ENFL	314	Karunarathne, E.	COLL	669	Kautz, E.	CATL	361
Kann, N.	ENVR	318	Karunarathne, V.	AGRO	242	Kauzlarich, S.	INOR	440
Kannan, S.	PMSE	686	Karunarathne, V.	AGRO	243	Kavallieratos, K.	INOR	430
Kannan, S.	PMSE	686	Karunatilake, N.	AGRO	243	Kavunja, H.W.	PMSE	789
Kannan, S.	PMSE	783	Karunaweera, C.	ORGN	533	Kawabata, H.	ORGN	480
Kannan, K.	ENVR	505	Kas, J.J.	ENFL	289	Kawabata, H.	AGFD	10
Kannan, R.	PMSE	686	Kasap, S.	COMP	128	Kawabata, K.	AGFD	10
Kannan, R.	PMSE	783	Kasavajhala, K.	NUCL	42	Kawada, J.	PMSE	158
Kanna Reddy, H.	PMSE	783	Kaseman, D.	COMP	578	Kawagishi, F.	MEDI	73
Kanno, M.	ORGN	258	Kaseman, D.	COLL	318	Kawagoe, J.C.	AGRO	181
Kanokwan, K.	PHYS	319	Kaseman, D.	INOR	424	Kawai, H.	AGRO	181
Kantak, A.	INOR	716	Kashemirov, B.A.	BIOL	298	Kawai, H.	MEDI	21
Kantak, A.	SCHB	9	Kashiwagi, H.	BIOL	298	Kawai, T.	MEDI	73
Kao, C.	CATL	70	Kashiwagi, H.	MEDI	59	Kawai, Y.	AGFD	37
Kao, W.	CATL	70	Kashouli, P.I.	MEDI	73	Kawajiri, T.	ORGN	332
Kapatsina, E.	POLY	100	Kashyap, H.	ENVR	267	Kawakami, L.M.	COLL	567
Kapatsina, E.	CHED	374	Kasi, R.	MPPG	18	Kawakami, S.	PMSE	613
				COLL	220	Kawamoto, T.	INOR	366

Kawamura, A.	MEDI	353	Kendra, P.E.	AGRO	175	Khalil, M.H.	PHYS	564
Kawamura, A.	POLY	24	Kendrick, B.	PHYS	174	Khamsuwan, N.	ORGN	584
Kawamura, A.	BIOL	220	Kendrick, B.	PHYS	293	Khan, A.	MEDI	54
Kawamura, N.	ANYL	164	Kenis, P.J.	ANYL	432	Khan, A.	BIOL	306
Kawanami, H.	ENFL	66	Kenis, P.J.	COLL	442	Khan, A.	PMSE	10
Kawano, R.	ANYL	524	Kenis, P.J.	ENFL	327	Khan, F.	AGRO	235
Kawarazaki, I.	POLY	308	Kennedy, A.	ENVR	834	Khan, H.	ORGN	452
Kawasaki, H.	COLL	211	Kennedy, A.	TOXI	44	Khan, I.	ENFL	514
Kawasaki, H.	COLL	576	Kennedy, E.	TOXI	42	Khan, I.H.	CHED	341
Kawasaki, Y.	MEDI	78	Kennedy, R.	ORGN	410	Khan, M.	MEDI	276
Kawatkar, A.	ORGN	549	Kennehan, G.	PHYS	578	Khan, M.	ORGN	11
Kayali, A.L.	PMSE	599	Kennemur, J.E.	PMSE	127	Khan, M.	COLL	638
Kayitmazer, A.B.	POLY	527	Kennemur, J.G.	PMSE	216	Khan, N.A.	ANYL	153
Kayser, F.	MEDI	108	Kennes, C.	ENVR	701	Khan, R.	INOR	58
Kazakov, A.	CINF	65	Kenney, B.	COLL	177	Khan, S.A.	COLL	171
Kazakov, A.	COMP	477	Kenny, J.E.	CHED	426	Khan, S.	COLL	555
Kazall, K.	INOR	487	Kenny, J.E.	PHYS	433	Khan, S.	PMSE	751
Kazemi Khouzani, R.	ANYL	437	Kenny, S.	COLL	712	Khan, S.	MEDI	156
Kazemi Khouzani, R.	ORGN	533	Kensil, K.	AGFD	126	Khan, S.	PMSE	464
Ke, F.	COLL	384	Kensil, K.	AGFD	127	Khan, W.R.	PMSE	428
Ke, J.	AGFD	150	Kensil, K.	AGFD	277	Khan, W.R.	PMSE	556
Ke, J.	PMSE	25	Kensy, V.	PMSE	90	Khan, W.R.	PMSE	643
Ke, J.	PMSE	215	Kensy, V.	POLY	36	Khan, W.R.	PMSE	719
Ke, J.	POLY	158	Kent, L.	CHED	89	Khan, W.R.	PMSE	817
Ke, K.	BIOL	129	Kent, P.	GEOC	4	Khandare, R.	GEOC	68
Ke, W.	INOR	441	Kent, T.	ENVR	325	Khankin, A.	CHAL	22
Ke, Y.	COLL	622	Kenta, S.	AGFD	83	Khanniche, S.	PHYS	233
Kearns, K.	ORGN	37	Kenyon, G.	TOXI	37	Khaodhiar, S.	I&EC	53
Kearns, N.	PHYS	100	Keogh, J.	PHYS	556	Kharas, G.B.	POLY	345
Keating, C.D.	COLL	70	Keogh, M.	COLL	505	Kharas, G.B.	POLY	346
Keating, C.D.	COLL	435	Keohane, C.	BIOL	310	Kharas, M.	BIOL	147
Keating, E.	PMSE	63	Keohane, C.	MEDI	136	Kharbanda, S.	COLL	186
Kechkeche, D.	COLL	523	Keong, N.	AGRO	197	Kharbouch, R.M.	CHED	43
Kedem, O.	PHYS	267	Keophart, S.	MEDI	282	Kharbouch, R.M.	CHED	240
Kedziora, G.S.	PMSE	270	Keramane, M.	MEDI	45	Kharbouch, R.M.	CHED	249
Kee, T.W.	PHYS	518	Kerfeld, C.	PHYS	511	Khare, K.S.	POLY	214
Keenan, K.	MEDI	25	Kern, J.	PHYS	58	Khare, S.	BIOL	286
Keene, R.	MEDI	66	Kern, J.L.	INOR	596	Khare, S.	BIOL	314
Kehl, J.A.	PMSE	58	Kern, M.	AGRO	53	Kharlampieva, E.P.	COLL	481
Kehl, J.A.	POLY	331	Kern, W.	PMSE	772	Kharlampieva, E.P.	COLL	785
Kehr, G.	ORGN	390	Kern, W.	POLY	77	Kharlampieva, E.P.	ENVR	121
Kehs, M.H.	ORGN	396	Kerns, P.	COLL	660	Khatri, C.	PMSE	650
Kehs, M.H.	ORGN	397	Kerns, P.	ENFL	460	Khatri, K.	ENFL	488
Keil, A.D.	ANYL	517	Kerns, R.J.	MEDI	104	Khatri, Y.	ORGN	252
Keiser, D.	GEOC	55	Kerns, R.J.	MEDI	148	Khatabi, A.	ENVR	657
Keiser, J.R.	I&EC	8	Kerr, C.	INOR	321	Khavrutskii, L.	MEDI	210
Keith, J.M.	INOR	420	Kerr, G.	ORGN	143	Khazaei, P.	MEDI	145
Keitz, B.	POLY	530	Kerr, M.	CHED	427	Khelfallah, N.S.	POLY	579
Kekre, K.M.	ENVR	520	Kerr, M.	INOR	695	Khichi, M.	COLL	695
Kelada, K.	COLL	786	Kerr, W.G.	ORGN	657	Kholod, Y.	CHED	387
Keleher, J.J.	COLL	191	Kerrigan, J.F.	ENVR	90	Khoo, C.	AGFD	277
Keleher, J.J.	COLL	281	Kersting, A.	NUCL	48	Khoo, E.	PHYS	505
Keleher, J.J.	COLL	482	Kerwin, S.M.	CHED	297	Khosharay, S.	COLL	666
Keleher, J.J.	ENFL	268	Keseru, G.M.	COMP	436	Khoshi, A.	ENFL	292
Keleher, J.J.	ENVR	576	Keseru, G.M.	COMP	438	Khungar, B.	MEDI	249
Keleher, J.J.	INOR	751	Keseru, G.M.	MEDI	7	Khunjar, W.	ENVR	703
Kelemen, R.	BIOL	153	Keshavarz, B.	PMSE	700	Khunte, B.	MEDI	151
Kelgokmen, Y.	ORGN	61	Keshipeddy, S.	CARB	101	Khurram, A.	ENFL	69
Kelgokmen, Y.	ORGN	583	Keshri, P.	ANYL	392	Khurshid, A.	MEDI	392
Kelgokmen, Y.	ORGN	588	Keshri, P.	PMSE	526	Khvatov, E.	MEDI	238
Kelkar, V.	POLY	59	Keshri, P.	PMSE	561	Khwaja, E.	MEDI	419
Kelleher, J.F.	MEDI	150	Kessler, M.	INOR	255	Kiaei, M.	PMSE	521
Keller, A.A.	ENVR	69	Kessler, S.H.	NUCL	24	Kiani, D.	CATL	423
Keller, A.A.	ENVR	75	Kessler, S.H.	NUCL	38	Kiani, D.	ENVR	96
Keller, C.L.	INOR	596	Ketcham, J.M.	MEDI	26	Kicking, S.	MEDI	137
Keller, E.L.	MPPG	81	Ketterer, M.E.	CHED	230	Kida, J.	POLY	416
Keller, H.	BIOL	316	Keuhlen, A.	PMSE	23	Kidd, B.	POLY	287
Kelley, A.	ORGN	110	Keul, H.	POLY	30	Kidd, J.	ENVR	424
Kelley, E.G.	COMP	106	Keum, J.	PMSE	16	Kidd, R.	CINF	86
Kelley, M.P.	NUCL	81	Key, B.	ANYL	247	Kidd, S.	ORGN	13
Kelley, S.O.	ANYL	41	Key, B.	ENFL	9	Kidder, M.	ENFL	123
Kelley, S.O.	ANYL	52	Key, J.A.	AGRO	246	Kidder, M.	ENFL	180
Kelley, S.O.	BIOL	122	Key, R.	CELL	1	Kidder, M.	I&EC	47
Kelley, S.O.	PMSE	355	Keyes, A.C.	PMSE	118	Kidder, M.	I&EC	56
Kellner-Rogers, J.	COLL	238	Keyes, T.	ANYL	158	Kidwell, D.A.	PMSE	558
Kelly, A.	PHYS	73	Khabashesku, V.	ENFL	307	Kieber, R.J.	PMSE	127
Kelly, A.	POLY	429	Khademhosseini, A.	POLY	70	Kiefer, P.M.	PHYS	93
Kelly, I.D.	AGRO	361	Khademhosseini, A.	MPPG	110	Kiefer, P.M.	PHYS	387
Kelly, M.J.	MEDI	279	Khadse, A.	MEDI	126	Kieffer, I.	INOR	322
Kelly, S.P.	ORGN	382	Khadse, A.N.	MEDI	156	Kiely, C.	CATL	25
Kelly, S.	CHED	34	Khajuria, C.	AGRO	373	Kienle, D.F.	COLL	773
Kelly, S.	CHED	129	Khakh, K.	MEDI	333	Kiesel, I.	COLL	646
Kelly, T.	PMSE	728	Khakhulin, D.	PHYS	109	Kieser, T.J.	ORGN	390
Kelly, T.	ENFL	234	Khaki Najafabadi, I.	MEDI	427	Kiesewetter, M.K.	CATL	341
Kelly, T.	PMSE	423	Khaksari, M.	ENVR	352	Kiesewetter, M.K.	POLY	324
Kemmitt, P.	ORGN	233	Khalakhan, I.	CATL	326	Kiesewetter, M.K.	POLY	337
Kemmler, S.	CARB	99	Khalesi, M.	ORGN	200	Kiesewetter, M.K.	POLY	338
Kemner, K.M.	ENVR	261	Khalid, A.	ENVR	137	Kiessling, L.L.	BIOL	130
Kempa, T.J.	COLL	737	Khalid, M.	BIOL	314	Kiessling, L.L.	BIOL	203
Kempa, T.J.	INOR	657	Khalifah, P.	ENFL	518	Kiessling, L.L.	BIOL	207
Kemper, R.A.	MEDI	342	Khalifehzadeh, R.	POLY	583	Kiessling, L.L.	BIOL	208
Kempinska, K.	MEDI	84	Khalil, H.	ENVR	836	Kiessling, L.L.	BIOL	213
Kenath, G.	PMSE	200	Khalil, M.H.	PHYS	160	Kiessling, L.L.	BIOL	227

Kiessling, L.L.	BIOL	241	Kim, E.	ENVR	391	Kim, J.	COLL	200
Kiessling, L.L.	BIOL	244	Kim, E.J.	CARB	49	Kim, J.	COLL	201
Kiessling, L.L.	BIOL	277	Kim, E.	MEDI	84	Kim, J.	COLL	267
Kiessling, L.L.	BIOL	288	Kim, E.	INOR	135	Kim, J.	ENVR	609
Kiessling, L.L.	CARB	48	Kim, E.	MEDI	152	Kim, J.	INOR	720
Kiessling, L.L.	ORGN	282	Kim, E.	ENVR	482	Kim, J.	CHED	177
Kiessling, L.L.	POLY	496	Kim, E.	PMSE	458	Kim, J.	ANYL	89
Kiffe, M.	MEDI	20	Kim, E.	PMSE	408	Kim, J.	ORGN	399
Kikkawa, J.M.	COLL	217	Kim, E.	PMSE	485	Kim, J.	COLL	721
Kikkawa, J.M.	COLL	674	Kim, E.	INOR	611	Kim, J.	ORGN	137
Kikuchi, E.	COLL	49	Kim, E.	INOR	768	Kim, J.	PHYS	163
Kil, J.	CATL	508	Kim, E.	INOR	771	Kim, J.	POLY	103
Kil, J.	ENFL	548	Kim, E.	INOR	774	Kim, J.	COLL	603
Kil, K.	PHYS	451	Kim, E.	BIOL	31	Kim, J.	ENVR	28
Kilani, M.	ANYL	438	Kim, G.	AGFD	117	Kim, J.	ENVR	603
Kilbourn, M.	MEDI	381	Kim, G.	MEDI	212	Kim, J.	INOR	717
Kilburg, D.	COMP	244	Kim, H.J.	CARB	15	Kim, J.	COLL	317
Kilcoyne, M.	CARB	77	Kim, H.	PHYS	434	Kim, J.	COLL	514
Kile, E.	CHED	187	Kim, H.	CHED	140	Kim, J.	ENVR	772
Kilgallon, L.	POLY	352	Kim, H.	CHED	152	Kim, J.	POLY	344
Kilgore, J.	CELL	2	Kim, H.	ENVR	414	Kim, J.	POLY	357
Kilgore, H.R.	BIOL	234	Kim, H.S.	ENVR	750	Kim, J.	ENVR	417
Kilin, D.	COMP	76	Kim, H.	INOR	733	Kim, J.	ENVR	418
Kilin, D.	COMP	194	Kim, H.	PHYS	437	Kim, J.	ENVR	419
Kilin, D.	COMP	276	Kim, H.	MPPG	22	Kim, J.	ENVR	420
Kilin, D.	COMP	278	Kim, H.	ORGN	348	Kim, J.	MEDI	142
Kilin, D.	COMP	279	Kim, H.	POLY	579	Kim, J.	COLL	228
Kilin, D.	COMP	280	Kim, H.I.	ENFL	540	Kim, J.	MPPG	91
Kilin, D.	COMP	283	Kim, H.	COLL	603	Kim, J.	PHYS	427
Kilin, D.	COMP	286	Kim, H.	ENVR	409	Kim, J.	PHYS	451
Kilin, D.	COMP	288	Kim, H.	AGFD	299	Kim, J.	ENVR	408
Kilin, D.	COMP	557	Kim, H.	AGFD	116	Kim, K.	POLY	573
Kilina, S.	COMP	83	Kim, H.	AGRO	282	Kim, K.	CHED	275
Kilina, S.	COMP	284	Kim, H.	AGRO	304	Kim, K.	AGFD	57
Kilina, S.	COMP	285	Kim, H.	AGRO	350	Kim, K.	INOR	732
Kilina, S.	COMP	287	Kim, H.	CATL	508	Kim, K.	ENVR	498
Kilina, S.	COMP	429	Kim, H.	PMSE	458	Kim, K.	ENVR	743
Kilina, S.	COMP	524	Kim, H.	POLY	610	Kim, K.	ENVR	353
Kilina, S.W.	COMP	76	Kim, H.	POLY	611	Kim, K.	ENVR	803
Kilina, S.W.	COMP	281	Kim, H.	ENVR	715	Kim, K.	ENFL	223
Kilina, S.W.	COMP	373	Kim, H.	COMP	582	Kim, K.	ENFL	224
Kilina, S.W.	COMP	389	Kim, H.	COMP	275	Kim, K.	ENFL	225
Killam, B.Y.	POLY	346	Kim, H.	ANYL	99	Kim, K.	ENFL	226
Killelea, D.R.	COLL	150	Kim, H.	ENVR	341	Kim, K.	ENFL	227
Killoran, P.	BIOL	186	Kim, H.	PMSE	682	Kim, K.	ENFL	229
Kilmer, M.D.	GEOC	21	Kim, H.	BIOL	188	Kim, K.	ENFL	237
Kilmonis, T.	ENFL	528	Kim, H.	INOR	582	Kim, K.	MEDI	302
Kilyanek, S.M.	INOR	35	Kim, H.	ORGN	111	Kim, K.	COLL	228
Kilyanek, S.M.	PROF	52	Kim, H.	ENVR	552	Kim, K.	ANYL	393
Kim, H.	ENFL	230	Kim, H.	PMSE	765	Kim, K.	ANYL	394
Kim, H.	ENFL	231	Kim, H.	CATL	325	Kim, K.	COMP	181
Kim, B.	COLL	130	Kim, H.	CATL	459	Kim, K.	ANYL	136
Kim, B.	MEDI	229	Kim, I.	ENFL	309	Kim, K.	ANYL	137
Kim, B.	COLL	165	Kim, I.	COMP	181	Kim, K.	PMSE	444
Kim, B.	COLL	221	Kim, J.	ENVR	109	Kim, K.	ENFL	259
Kim, B.	COLL	306	Kim, J.	ENVR	216	Kim, K.	ENVR	637
Kim, B.	POLY	103	Kim, J.	ENVR	396	Kim, K.	INOR	732
Kim, B.	POLY	433	Kim, J.	ENVR	397	Kim, M.	AGRO	87
Kim, B.	ANYL	162	Kim, J.	ENVR	435	Kim, M.K.	AGFD	335
Kim, B.L.	COLL	552	Kim, J.	ENVR	535	Kim, M.	ANYL	136
Kim, B.	COLL	758	Kim, J.	ENVR	536	Kim, M.	ANYL	137
Kim, B.	ENVR	822	Kim, J.	ENVR	761	Kim, M.	AGFD	116
Kim, B.G.	PMSE	489	Kim, J.	CATL	222	Kim, M.	MEDI	387
Kim, B.G.	PMSE	490	Kim, J.	CATL	276	Kim, M.	ENVR	583
Kim, B.	CATL	329	Kim, J.	ANYL	205	Kim, M.	ENVR	341
Kim, B.	COLL	185	Kim, J.	ENVR	547	Kim, M.	INOR	490
Kim, B.	COLL	317	Kim, J.	ENFL	7	Kim, M.	CATL	224
Kim, B.	COLL	514	Kim, J.	INOR	726	Kim, M.	BIOL	230
Kim, B.	AGFD	139	Kim, J.	AGRO	282	Kim, M.	AGRO	316
Kim, B.	MEDI	142	Kim, J.	AGRO	304	Kim, M.	POLY	336
Kim, C.	INOR	726	Kim, J.	AGRO	325	Kim, N.	POLY	358
Kim, C.	COLL	165	Kim, J.	AGRO	326	Kim, N.	INOR	620
Kim, C.	COLL	207	Kim, J.	AGRO	327	Kim, P.	PMSE	650
Kim, C.	COMP	501	Kim, J.	AGRO	328	Kim, P.	PMSE	725
Kim, C.	MEDI	213	Kim, J.	AGRO	350	Kim, P.	PMSE	797
Kim, C.	ENVR	567	Kim, J.	ENVR	662	Kim, S.	MEDI	373
Kim, C.	BIOL	166	Kim, J.	ENVR	725	Kim, S.	AGFD	283
Kim, C.	CATL	459	Kim, J.	AGFD	139	Kim, S.	ENVR	535
Kim, D.	PMSE	411	Kim, J.J.	BIOL	127	Kim, S.	INOR	348
Kim, D.	COLL	266	Kim, J.	COLL	200	Kim, S.	CATL	363
Kim, D.	ORGN	129	Kim, J.	COLL	201	Kim, S.	ENFL	178
Kim, D.	ORGN	603	Kim, J.	COLL	267	Kim, S.	ENFL	419
Kim, D.	ENVR	174	Kim, J.	COLL	603	Kim, S.	ENFL	484
Kim, D.	COLL	355	Kim, J.	PMSE	408	Kim, S.	AGFD	120
Kim, D.	PMSE	489	Kim, J.	PMSE	485	Kim, S.H.	CELL	67
Kim, D.	ENFL	209	Kim, J.	CATL	322	Kim, S.	ENVR	39
Kim, D.	ENFL	285	Kim, J.	POLY	103	Kim, S.	ENVR	41
Kim, D.	PMSE	114	Kim, J.	COLL	758	Kim, S.	ORGN	653
Kim, D.	ENFL	282	Kim, J.	AGRO	325	Kim, S.	ORGN	341
Kim, D.	COLL	327	Kim, J.	AGRO	326	Kim, S.	ANYL	160
Kim, D.	ENFL	401	Kim, J.	AGRO	327	Kim, S.	COLL	294
Kim, D.	GEOC	2	Kim, J.	AGRO	328	Kim, S.	PMSE	787
Kim, E.	ANYL	260	Kim, J.	CELL	19	Kim, S.	AGFD	109

Kim, S.	ORGN	653	Kipper, M.	COLL	189	Klein, M.L.	POLY	252
Kim, S.	AGFD	120	Kipper, M.	COLL	341	Klein, M.L.	POLY	372
Kim, S.	PMSE	649	Kiratitanavit, W.	PMSE	803	Klein, N.	PHYS	406
Kim, S.	COLL	77	Kiratitanavit, W.	POLY	560	Kleinberger, R.M.	POLY	174
Kim, S.	COLL	575	Kiratitanavit, W.	POLY	605	Kleiner, R.	BIOL	5
Kim, S.	MEDI	455	Kiraz, A.	PMSE	386	Kleist, E.M.	PHYS	469
Kim, S.	ENFL	16	Kirby, J.	ORGN	643	Kleit, F.	ENVR	467
Kim, S.	AGFD	66	Kirby, J.F.	CHED	101	Klemes, M.	ENVR	432
Kim, S.A.	AGFD	86	Kirby, J.F.	INOR	494	Klemes, M.	PMSE	1
Kim, S.	CINF	1	Kirby, J.F.	NUCL	85	Klemow, K.	CHED	145
Kim, S.	CINF	38	Kirchberger, F.M.	CATL	156	Kleski, K.A.	CARB	8
Kim, S.	TOXI	107	Kirchhoff, M.M.	CHED	30	Kleski, K.A.	CARB	64
Kim, S.	COLL	185	Kirchhoff, M.M.	CHED	406	Kletetschka, K.	GEOC	48
Kim, S.	COLL	514	Kirchmair, J.	AGRO	86	Klimavicz, J.S.	AGRO	126
Kim, S.	PMSE	490	Kirchmair, J.	CINF	22	Klimavicz, J.S.	AGRO	358
Kim, S.	CHED	181	Kireev, D.	MEDI	54	Klimavicz, J.S.	AGRO	276
Kim, S.	PMSE	642	Kireev, D.	MEDI	116	Klimov, V.I.	COMP	80
Kim, T.K.	PHYS	8	Kireev, D.	MEDI	303	Klimov, V.I.	PHYS	149
Kim, T.W.	ENVR	552	Kireev, D.E.	CINF	139	Kline, D.J.	COLL	324
Kim, T.	PMSE	490	Kiridena, S.	ANYL	411	Kline, H.	CHED	331
Kim, T.	AGRO	280	Kirisits, M.	ENVR	288	Kling, A.	MEDI	318
Kim, T.	AGRO	325	Kiriy, A.	PMSE	398	Klinger, G.	CATL	400
Kim, T.	AGRO	326	Kirk, A.	AGRO	300	Klingler, F.	COMP	294
Kim, T.	AGRO	327	Kirk, K.	ANYL	40	Klinker, K.	PMSE	640
Kim, T.	AGRO	328	Kirkland, M.	MEDI	311	Klinker, K.	POLY	186
Kim, T.	PMSE	623	Kirley, M.P.	ANYL	517	Klinting, S.	TOXI	61
Kim, T.	PHYS	456	Kirrandar, A.	PHYS	9	Klipp, A.	COLL	640
Kim, T.	ENVR	772	Kirrandar, A.	PHYS	11	Klippenstein, S.J.	PHYS	170
Kim, V.	ENVR	504	Kirrandar, A.	PHYS	336	Klippenstein, S.J.	PHYS	372
Kim, W.	ANYL	160	Kirres, J.	ORGN	423	Kloer, D.	AGRO	210
Kim, W.	COLL	294	Kirss, R.U.	INOR	681	Klok, H.A.	POLY	19
Kim, W.	ANYL	517	Kish, K.	MEDI	56	Klok, H.A.	POLY	563
Kim, W.	MEDI	135	Kish, K.	MEDI	364	Klossowski, S.	MEDI	84
Kim, W.	COLL	638	Kishi, H.	PMSE	15	Klötzer, B.	CATL	180
Kim, W.	ENFL	303	Kishi, H.	PMSE	613	Kloxin, A.M.	PMSE	97
Kim, W.	ENFL	446	Kishi, T.	ORGN	564	Kloxin, A.M.	PMSE	370
Kim, W.E.	BIOL	90	Kishishita, A.	COLL	213	Kloxin, C.J.	PMSE	52
Kim, W.	BIOL	230	Kisielowski, C.	CATL	22	Kloxin, C.J.	PMSE	217
Kim, W.	MEDI	136	Kisley, L.	POLY	140	Kloxin, C.J.	POLY	6
Kim, W.	ENFL	16	Kiss, L.	MEDI	284	Kloxin, C.J.	POLY	389
Kim, Y.	BIOL	212	Kiss, V.	POLY	376	Klug, A.	POLY	314
Kim, Y.	ENVR	634	Kissel, D.	INOR	661	Klug, C.	COLL	441
Kim, Y.	INOR	349	Kissel, D.S.	INOR	751	Klug, D.	MEDI	38
Kim, Y.	INOR	714	Kita, M.R.	INOR	401	Klug, D.	MEDI	310
Kim, Y.	PHYS	51	Kitada, N.	BIOL	106	Klug, D.	PMSE	455
Kim, Y.	PHYS	182	Kitade, Y.	COLL	277	Klug, D.	POLY	79
Kim, Y.	MEDI	135	Kitagawa, S.	INOR	716	Kluge, A.F.	MEDI	410
Kim, Y.	ENVR	803	Kitahata, S.	MEDI	349	Klureza, M.	CHED	170
Kim, Y.	BIOL	69	Kitamura, S.	PMSE	497	Klutts, J.N.	TOXI	57
Kim, Y.	PMSE	489	Kitanovic, A.	MEDI	4	Klyukin, K.	COMP	575
Kim, Y.	ENVR	793	Kitanovic, I.	MEDI	4	Klyukin, K.	ENFL	350
Kim, Y.	PMSE	35	Kitazawa, Y.	ORGN	135	Kmetz, A.A.	ENFL	311
Kim, Y.	PMSE	302	Kitchen, G.	ANYL	367	Kmiotek, C.	INOR	356
Kim, Y.	POLY	510	Kitcher, E.D.	NUCL	21	Kmiotek, C.	PHYS	423
Kim, Y.	BIOL	226	Kitson, P.	COMSCI	4	Knafels, J.D.	MEDI	319
Kim, Y.	INOR	529	Kitt, J.P.	ANYL	402	Knap, J.	PHYS	117
Kim, Y.	PMSE	408	Kitt, J.P.	ANYL	404	Knapp, M.	MEDI	101
Kim, Y.	PMSE	485	Kittaka, A.	ORGN	161	Knapp, M.	COLL	260
Kim, Y.	ENFL	223	Kittilstved, K.R.	COLL	654	Knapp, M.	INOR	610
Kim, Y.	ENFL	225	Kittilstved, K.R.	INOR	310	Knapp, S.	MEDI	54
Kim, Y.	ENFL	229	Kittilstved, K.R.	INOR	631	Knappe, D.	ENVR	42
Kim, Y.	ENFL	237	Kittle, J.	POLY	557	Knappe, D.	ENVR	43
Kim, Y.	CARB	19	Kiwfo, K.	CHED	371	Knappe, D.	ENVR	181
Kim, Y.	AGFD	302	Kiwfo, K.	CHED	384	Knappe, D.	ENVR	184
Kim, Y.	ENFL	373	Kiyama, M.	BIOL	106	Knappenberger, K.L.	ANYL	385
Kim, Y.	AGFD	86	Kiyono, Y.	POLY	303	Knappenberger, K.L.	MPPG	85
Kim, Y.	AGFD	116	Kizhakkedathu, J.N.	PMSE	631	Knappenberger, K.L.	PHYS	358
Kim, Y.	POLY	375	Kizhakkedathu, J.N.	PMSE	791	Knappenberger, K.L.	PHYS	361
Kim, Y.	COLL	723	Kizhakkedathu, J.N.	POLY	139	Knappenberger, K.L.	PHYS	580
Kim, Y.	ENFL	124	Kizhmuri Parappuram, D.	ENVR	338	Knasmueller, B.	COMP	155
Kim, Z.	MPPG	93	Kizhmuri Parappuram, D.	PHYS	277	Knaut, R.	INOR	255
Kim, K.	ENVR	155	Kjaer, K.	PHYS	107	Knecht, M.R.	CHED	284
Kimani, F.W.	ANYL	61	Kjaer, K.	PHYS	111	Knecht, M.R.	COLL	180
Kimbara, A.	MEDI	59	Kjellerup, B.	ENVR	736	Knell, C.	INOR	236
Kimoto, Y.	AGFD	217	Klamt, A.	COMP	44	Knemeyer, I.	MEDI	24
Kimukai, H.	ENVR	247	Klamt, A.	COMP	452	Knight, A.	PMSE	334
Kimura, H.	MEDI	314	Klapars, A.	ORGN	304	Knight, A.	POLY	622
Kimura, H.	CARB	100	Klapper, M.	COLL	145	Knight, A.	GEOC	5
Kimura, R.	MEDI	78	Klapperich, C.	ANYL	122	Knight, A.	GEOC	12
Kimura, S.	CARB	22	Klapperich, C.	COLL	524	Knight, J.L.	COMP	487
Kimura, Y.	PMSE	497	Klar, V.	CELL	37	Knightes, C.	ENVR	91
Kinchin, C.	ENFL	176	Klauda, J.B.	CHED	47	Knighton, M.	CATL	81
Kinchla, A.J.	AGFD	30	Klausen, R.S.	ORGN	92	Knighton, M.	CATL	205
Kinchla, A.J.	AGFD	125	Klausen, R.S.	PMSE	159	Knipe, P.C.	ORGN	663
King, A.K.	MEDI	361	Klausen, R.S.	POLY	35	Knippenbirg, M.	COMP	268
King, B.W.	MEDI	25	Klausen, R.S.	POLY	221	Knispel, R.	CINF	78
King, D.B.	CHED	368	Klausen, R.S.	POLY	399	Knoepfel, T.	MEDI	20
King, N.	BIOL	311	Klein, B.	MEDI	279	Knoester, J.	PHYS	209
King, P.W.	BIOL	262	Klein, J.	ENFL	488	Knopf, K.E.	INOR	163
King, R.D.	CINF	102	Klein, J.A.	ANYL	415	Knopf, K.M.	INOR	60
Kingsley, C.	INOR	703	Klein, L.C.	PMSE	729	Knopp, G.	PHYS	217
Kinnan, M.	CATL	94	Klein, L.	COLL	720	Knoppe, S.	COLL	490
Kinnear, C.	PMSE	284	Klein, M.L.	PHYS	281	Knoppe, S.	PHYS	357

Knorpp, A.J.	CATL	421	Kohei, O.	CHED	298	Kong, L.	AGFD	185
Knott, K.	AGRO	284	Kohen, A.	BIOL	165	Kong, L.	ENFL	192
Knouse, K.	WCC	3	Kohen, A.	COLL	648	Kong, M.	ENVR	205
Knowles, K.E.	INOR	256	Kohl, P.	ENFL	315	Kong, M.	ENVR	280
Knowles, L.	MEDI	445	Kohl, P.	PMSE	36	Kong, M.	ENVR	347
Knowles, R.R.	ORGN	26	Kohl, P.	POLY	508	Kong, M.	ENVR	390
Knowles, R.R.	ORGN	377	Kohler, B.	PHYS	44	Kong, M.	PMSE	755
Knox, R.	MEDI	50	Kohler, L.	PHYS	161	Kong, T.	PMSE	807
Knox, R.	MEDI	51	Kohlhase, D.	AGRO	102	Kong, X.	COLL	155
Knudsen, J.	CATL	121	Kohli, P.	COLL	335	Kong, X.	ENVR	349
Knueppel, D.	AGRO	201	Kohn, A.W.	PHYS	125	Kong, X.	ENVR	760
Knueppel, D.	AGRO	204	Kohn, E.M.	BIOL	32	Kong, Y.	ANYL	277
Knueppel, D.	AGRO	225	Kohn, E.M.	BIOL	107	Kong, Z.	ENFL	252
Knuteson, D.	AGRO	55	Kohnhorst, C.	CARB	58	Kong, Z.	INOR	491
Knuth, M.	AGFD	342	Kohut, A.	CHED	219	Kong, Z.	CATL	202
Knutson, D.E.	MEDI	95	Koichi, A.	AGFD	2	Konkankit, C.C.	INOR	60
Knutson, K.	COLL	130	Koichi, A.	AGFD	82	Konkolewicz, D.	PMSE	25
Ko, B.	MEDI	135	Koichi, M.	PMSE	155	Konkolewicz, D.	PMSE	215
Ko, B.	COLL	638	Koichumanova, K.	CATL	467	Konkolewicz, D.	POLY	16
Ko, E.	ENVR	155	Koike, K.	CATL	189	Konkolewicz, D.	POLY	158
Ko, F.	ANYL	46	Koirala, B.	CHED	202	Konkolewicz, D.	POLY	455
Ko, F.	I&EC	37	Koirala, B.	ORGN	298	Konno, T.	PMSE	693
Ko, H.	CATL	5	Koizumi, K.	ENVR	247	Kono, H.	PHYS	319
Ko, H.	PMSE	487	Koizumi, K.	GEOC	17	Konopelski, J.P.	ORGN	524
Ko, H.	ENFL	259	Koizumi, N.	COLL	67	Konorev, D.	TOXI	39
Ko, J.	POLY	81	Koizumi, R.	AGFD	82	Konradi, R.	BIOL	316
Ko, J.S.	ENFL	46	Kojima, H.	MEDI	67	Konry, T.	ANYL	54
Ko, J.S.	ENFL	354	Kojima, N.	ORGN	580	Kontenis, L.	ANYL	449
Ko, J.S.	ENFL	380	Kojima, R.	ENVR	628	Kontopidis, G.	MEDI	179
Kobayashi, C.	COMP	65	Kojima, T.	CATL	76	Konur, L.	ENVR	669
Kobayashi, E.	COLL	49	Kojio, K.	PMSE	157	Konze, K.D.	CINF	41
Kobayashi, K.	COLL	176	Koka, J.	ENFL	559	Koo, B.	POLY	103
Kobayashi, K.	MEDI	78	Kokel, A.	ORGN	136	Koo, C.	COLL	266
Kobayashi, K.	AGFD	73	Kokel, A.	ORGN	347	Koo, H.	PMSE	764
Kobayashi, R.	PMSE	155	Kokel, A.	ORGN	594	Koob, S.P.	POLY	46
Kobayashi, S.	PMSE	153	Kokini, J.	AGFD	159	Koohang, A.A.	CATL	57
Kobayashi, T.	CATL	12	Kokkinidou, S.	AGFD	306	Koontz, J.L.	PMSE	486
Kobayashi, Y.	PHYS	13	Kolaczyk, E.	COMSCI	8	Koota, H.	INOR	709
Kobayashi, Y.	AGFD	90	Kolakowski, M.	CHED	370	Koota, H.	POLY	313
Kobilka, B.K.	MEDI	88	Kolattukudy Poulouse, S.	COLL	99	Kopecky, D.	MEDI	322
Kobori, A.	ANYL	126	Kolattukudy Poulouse, S.	COLL	753	Kopelent, R.	CATL	461
Kobori, A.	BIOL	103	Kolb, C.E.	CHED	106	Korablyov, M.	COMP	435
Koby, R.F.	INOR	145	Kolbanovskiy, M.	TOXI	97	Koratar, N.	ENFL	60
Koby, R.F.	ORGN	213	Kole, M.R.	AGFD	169	Koratar, N.	MPPG	44
Kobylianskii, I.J.	PMSE	379	Kolel-Veetil, M.K.	PMSE	222	Korde, A.	MEDI	60
Kobylianskii, I.J.	PMSE	612	Kolel-Veetil, M.K.	POLY	400	Korde, A.	MEDI	87
Kocak, O.	COMP	534	Kölemen, S.	BIOL	168	Korendovych, I.V.	BIOL	70
Koch, D.A.	AGRO	262	Kolesnichenko, I.	PMSE	34	Korendovych, I.V.	BIOL	85
Koch, I.	ENVR	360	Kolesnikov, A.I.	GEOC	4	Korendovych, I.V.	BIOL	225
Koch, R.	PHYS	544	Koleti, A.	CINF	131	Korendovych, I.V.	BIOL	235
Kochan, K.	POLY	346	Koleva, B.	TOXI	66	Korendovych, I.V.	NUCL	15
Kochanov, R.V.	PHYS	309	Koliadima, A.	COLL	290	Kori, M.	MEDI	314
Kocheril, G.	PHYS	369	Kolla, V.	COLL	468	Korkis, S.E.	ORGN	113
Kochetov, R.	PMSE	704	Kolle, M.	COLL	73	Korkmaz, M.A.	ORGN	388
Kochev, N.	AGRO	86	Kolle, S.	PMSE	188	Korkmaz, M.A.	ORGN	389
Kochovski, Z.	COLL	6	Kollmann, E.K.	CHED	30	Korner, J.	BIOL	163
Kocinski, H.	MEDI	261	Kollmann, E.K.	CHED	31	Kornilov, O.	PHYS	15
Koda, Y.	POLY	288	Kolodziejczak, A.	ENVR	303	Korolev, S.	CHED	46
Kodaimati, M.	COMP	120	Kolok, A.	ENVR	163	Korolovych, V.	CELL	63
Kodaimati, M.S.	PHYS	576	Kolsky, K.	NUCL	5	Korolovych, V.	POLY	294
Kodama, Y.	ORGN	152	Koman, V.	ANYL	330	Koroshetz, W.	MPPG	87
Kodama, Y.	PMSE	693	Koman, V.	COLL	36	Korotcov, A.	CINF	69
Kodera, Y.	ENVR	247	Koman, V.	COLL	668	Korotcov, A.	MEDI	114
Koebberg, M.	ANYL	291	Koman, V.	ENFL	34	Korovina, N.	PHYS	329
Koech, P.	ENFL	80	Koman, V.	ENVR	835	Korter, T.M.	PHYS	465
Koehler, C.	ORGN	276	Koman, V.	ORGN	416	Korter, T.M.	PHYS	469
Koehler, M.	MEDI	325	Komarova, K.G.	PHYS	80	Korter, T.M.	PHYS	473
Koehn, J.T.	COLL	644	Komarova, K.G.	PHYS	123	Kortright, J.	CATL	261
Koelper, A.	BIOL	198	Komarova, K.G.	PHYS	140	Korzynski, M.D.	INOR	654
Koenig, S.G.	ORGN	226	Komarova, K.G.	PHYS	388	Kosenkov, D.	CHED	387
Koepke, M.	I&EC	30	Komiya, T.	GEOC	54	Kosenkov, D.	COMP	411
Koerner, H.	POLY	506	Komori, T.	MEDI	72	Koshino, K.	CARB	100
Koes, D.	COMP	133	Komtchou Kamdem, S.	ENVR	574	Kosinski, D.	MEDI	311
Koes, D.	COMP	410	Komurasaki, K.	MEDI	78	Koski, K.J.	ENFL	5
Koes, D.	COMP	528	Konar, S.	CATL	148	Kosma, P.	BIOL	227
Koether, M.C.	CHED	432	Konarev, P.	POLY	316	Kosmas, S.P.	ENVR	754
Koether, M.C.	CHED	436	Kondapalli, K.C.	COLL	184	Kosolapov, A.	COMP	241
Koffas, M.	BIOL	71	Kondekar, N.	COLL	24	Kossak, A.	COLL	737
Kofinas, P.	COLL	413	Kondekar, N.	PRES	29	Kossenjans, M.	CINF	103
Kagan, N.	CHED	344	Kondo, S.	CHED	298	Kossick, K.M.	ORGN	638
Kagej, T.	CINF	169	Kondo, S.	ORGN	354	Kosswattaarachchi, A.M.	INOR	663
Kagej, T.	COMP	99	Kondo, T.	PHYS	47	Kosswattaarachchi, M.A.	ENFL	31
Koglin, J.E.	PHYS	9	Kondo, T.	PHYS	509	Kost, J.	PMSE	186
Koglin, J.E.	PHYS	430	Kondo, Y.	COLL	67	Kosta, T.	POLY	258
Koh, A.	ANYL	177	Kondo, Y.	COLL	273	Kosta, T.	COLL	364
Koh, A.	COLL	741	Kondo, Y.	COLL	276	Kostarelos, K.	COLL	364
Koh, C.A.	ENFL	375	Kondoh, H.	COLL	276	Kostecki, R.	ENFL	373
Koh, J.	PMSE	527	Kondoh, H.	CATL	124	Kostecki, R.	PHYS	59
Koh, K.	CATL	166	Kondratyuk, P.	CATL	241	Koster, J.	COLL	703
Koh, M.	ENFL	401	Kong, D.	BIOL	59	Kostiainen, M.	CELL	35
Kohane, D.S.	COLL	142	Kong, D.	BIOL	296	Kosugi, Y.	MEDI	314
Kohane, D.S.	COLL	450	Kong, J.	ENVR	534	Kota, A.	PMSE	30
Kohane, D.S.	COLL	463	Kong, K.	ENVR	491	Kota, A.	PMSE	392
			Kong, L.	ENVR	269	Kota, H.R.	COLL	419

Kotake, M.	MEDI	72	Kransy, R.	COMP	33	Krueger, A.C.	MEDI	369
Kotaki, M.	PMSE	619	Krapf, D.	COLL	189	Krueger, H.	AGRO	366
Kothapalli, S.R.	ANYL	186	Krapf, D.	COLL	341	Kruger, A.G.	BIOL	207
Kotlarz, N.	ENVR	42	Kratz, C.	ENVR	123	Kruger, G.	AGRO	104
Kotlyar, M.	COLL	348	Kraus, M.	MEDI	282	Kruger, J.	CATL	401
Kotoulas, N.	COLL	310	Kraus, P.	PHYS	524	Kruger, J.	ENVR	448
Kotov, N.	ANYL	207	Kraus, R.L.	MEDI	279	Kruger, R.	MEDI	25
Kotov, N.	COLL	104	Krause, C.	MEDI	364	Krüger, J.	POLY	437
Kotov, N.	COLL	678	Krause, J.A.	INOR	312	Krummenacher, I.	ORGN	587
Kotov, N.	COLL	721	Krauss, A.	AGFD	272	Krummenacker, M.	COMSCI	6
Kotov, N.	COLL	724	Krauss, I.J.	CARB	57	Krushinski, J.H.	MEDI	321
Kotov, N.	INOR	332	Krauss, I.J.	CARB	59	Kryatova, O.	MEDI	162
Kotov, N.	MPPG	45	Krauss, I.J.	CARB	65	Kryjevski, A.	COMP	76
Kotov, N.	PMSE	283	Krauss, T.D.	ENFL	396	Krylyuk, S.	ANYL	477
Kotov, N.	POLY	510	Kraut, H.	CINF	10	Kryman, M.	INOR	314
Kottegoda, N.	AGRO	242	Kravchenko, I.	MEDI	402	Krzyaniak, M.D.	INOR	108
Kottegoda, N.	AGRO	243	Kravchenko, O.	CATL	212	Ksiazkiewicz, A.N.	POLY	350
Kottisch, V.	WCC	7	Krechivska, O.	PHYS	191	Ku, X.	AGFD	226
Kotturi, D.	ANYL	325	Kreder, M.	PMSE	725	Ku, Y.	ORGN	224
Kotyk, C.M.	INOR	421	Kreider-Mueller, A.	CHED	254	Kuang, J.	ANYL	421
Kotyk, J.K.	INOR	664	Kreider-Mueller, A.	INOR	690	Kuang, X.	PMSE	810
Kou, Y.	TOXI	100	Kreisbeck, C.	COMP	301	Kübelbeck, S.	BIOL	316
Koudelka, A.P.	BIOL	93	Kreisbeck, C.	COMP	302	Kubiak, C.P.	INOR	253
Koulias, L.	COMP	159	Kreisbeck, C.	PHYS	49	Kubicki, J.D.	CELL	4
Koumba, G.	CELL	76	Krejca, M.M.	COLL	93	Kubicki, J.D.	GEOC	30
Kourkoutis, L.	COLL	3	Krejci, J.	BIOL	309	Kubicki, J.D.	GEOC	32
Koutros, C.	CHED	6	Krejci, J.	ORGN	399	Kubik, M.	POLY	14
Kouwer, P.H.	PMSE	720	Kremen, C.	AGRO	183	Kubin, M.	PHYS	14
Kouznetsova, J.	MEDI	302	Krentz, R.	AGRO	182	Kubin, M.	PHYS	58
Kovac, P.	CARB	41	Kress, P.	CATL	233	Kubo, T.	PMSE	293
Kováč, P.	CARB	98	Kreutzer, A.G.	BIOL	293	Kubo, T.	POLY	121
Kovacic, F.	COMP	146	Krevanko, C.	INOR	480	Kubo, T.	POLY	332
Kovacic, F.	COLL	153	Krevor, S.	NUCL	85	Kubo, T.	POLY	577
Kovacs, A.	MEDI	190	Krezel, P.	COMP	432	Kucernak, A.	PHYS	365
Kovacs, E.	ORGN	471	Krich, J.	PHYS	128	Kucharzyk, K.H.	AGRO	244
Kovacs, E.	ORGN	655	Krieger, A.	PMSE	314	Kucheryavy, P.	PHYS	222
Kovács, B.	INOR	619	Krieger, D.	CINF	54	Kudalkar, S.N.	MEDI	60
Kovács, E.	INOR	89	Krieger, D.	COMSCI	3	Kuda-Wedagedara, A.N.	INOR	158
Kovács, E.	POLY	376	Krieger, J.L.	AGRO	386	Kudisch, M.	ORGN	28
Kovalenko, M.	COLL	440	Krikstolaityte, S.	ORGN	586	Kuebelbeck, S.	BIOL	271
Kovalenko, M.	COMP	193	Kriner, D.	ENVR	166	Kuehn, F.E.	CATL	210
Kovalenko, M.	INOR	328	Kriner, D.	ENVR	805	Kuehn, F.E.	INOR	148
Kovaliov, M.	POLY	261	Krippeahne, K.	ENVR	305	Kuehn, F.E.	INOR	149
Kovaliov, M.	POLY	455	Krische, M.J.	ORGN	46	Kuehn, F.E.	INOR	670
Kovarik, L.	CATL	242	Krishnadoss, V.	PMSE	111	Kuenemann, M.	COMP	74
Kovarik, L.	CATL	396	Krishnakumar, A.	CATL	134	Kuenstner, E.J.	MEDI	302
Kovarik, L.	COLL	427	Krishnamachari, S.	TOXI	91	Kuenzel, M.	ANYL	250
Kovnir, K.	INOR	435	Krishnamani, V.	COMP	106	Kuepfert, M.	POLY	180
Kovtun, O.	BIOL	187	Krishnamurthy, N.	MEDI	410	Kuepper, A.	AGRO	103
Kow, C.	ENVR	628	Krishnamurthy, S.	INOR	529	Kufareva, I.	MEDI	307
Kowalczyk, T.	COMP	240	Krishnamurti, V.	ORGN	9	Kuhl, T.	COLL	116
Kowalewski, M.	PHYS	96	Krishnamurti, V.	ORGN	609	Kuhla, J.J.	I&E	1
Kowalewski, M.	PHYS	274	Krishnamurti, V.	ORGN	611	Kuhlman, E.	CATL	205
Kowalski, K.	COMP	129	Krishnan, K.V.	ORGN	442	Kuhlman, L.	INOR	632
Kowarik, M.	CARB	99	Krishnan, N.	GEOC	40	Kuhlmann, J.	AGFD	11
Koza, M.B.	CHAS	26	Krishnan, P.	MEDI	369	Kuhlmann, J.	AGFD	13
Kozak, R.	MEDI	316	Krishnan, S.	COLL	379	Kuhlmann, J.	AGFD	41
Kozari, E.	PHYS	377	Krishnan, Y.	PHYS	65	Kuhlmann, T.	ORGN	390
Kozawa, D.	ANYL	330	Krishnan, Y.	ANYL	335	Kuhn, D.L.	PHYS	385
Kozawa, D.	COLL	36	Krishnan, Y.	BIOL	18	Kuhn, E.A.	BIOL	91
Kozek, K.A.	MEDI	143	Kristensen, S.	CATL	258	Kuhn, E.A.	BIOL	92
Koziara, K.	GEOC	28	Kristian, K.E.	CHED	409	Kuiken, T.	ENVR	274
Kozimor, S.A.	INOR	420	Kristin, S.	ANYL	495	Kuipers, J.	CATL	434
Kozinski, J.	CELL	6	Kristoffersen, H.H.	CATL	294	Kukielka, M.	CINF	123
Kozlovskaya, L.	MEDI	238	Kristoffersen, H.H.	COMP	556	Kukoyi, K.	ANYL	295
Kozlovskaya, V.A.	COLL	481	Kristufek, S.L.	POLY	131	Kukuruzinska, M.A.	ANYL	421
Kozlovskaya, V.A.	COLL	785	Kritzer, J.	BIOL	239	Kukuruzinska, M.A.	CARB	10
Kozlovskaya, V.A.	ENVR	121	Kritzer, J.	COMP	434	Kulai, I.	POLY	310
Kozlowski, M.	ORGN	115	Kritzer, J.	ORGN	157	Kulai, I.	POLY	415
Kozlowski, M.	ORGN	142	Kritzer, J.	ORGN	162	Kulai, I.	POLY	435
Kozlowski, M.	ORGN	453	Kritzer, J.	ORGN	163	Kularatne, R.	COLL	626
Kozlowski, M.	ORGN	506	Kritzer, J.	ORGN	164	Kulesha, A.	NUCL	15
Kozma, M.	ANYL	177	Kritzer, J.	ORGN	165	Kulesha, O.	COLL	100
Kozma, M.	ANYL	407	Kritzer, J.	ORGN	299	Kulik, H.J.	BIOL	179
Kozma, M.	ENVR	30	Krivacic, C.	MEDI	282	Kulik, H.J.	COMP	12
Kozubowski, L.	INOR	186	Kröber, T.	POLY	300	Kulik, H.J.	COMP	85
Kozuszek, C.	POLY	16	Kroening, G.	ENVR	788	Kulik, H.J.	COMP	90
Kracke, F.	CATL	36	Kroenlein, K.	CINF	65	Kulik, H.J.	COMP	167
Kraegeloh, A.	TOXI	25	Kroes, R.A.	MEDI	276	Kulik, H.J.	COMP	230
Krajewski, S.M.	INOR	350	Kroggh Jespersen, K.	INOR	280	Kulik, H.J.	COMP	235
Kral, P.	COLL	89	Krogstad, J.	CHED	61	Kulik, H.J.	COMP	259
Kral, P.	COLL	556	Krogstad, P.	MEDI	146	Kulik, H.J.	COMP	261
Kral, P.	COLL	606	Krol, J.	MEDI	447	Kulik, H.J.	COMP	307
Kralj, S.	AGFD	281	Kroll, J.	CINF	55	Kulik, H.J.	COMP	338
Kramer, C.	TOXI	63	Krook, N.M.	INOR	719	Kulik, H.J.	COMP	347
Kramer, M.	MEDI	265	Kroonblawd, M.	PHYS	308	Kulik, H.J.	COMP	349
Kramer, V.	AGRO	185	Kropachev, K.	TOXI	97	Kulik, H.J.	COMP	495
Kramer, V.J.	AGRO	187	Kropp, T.	CATL	147	Kulik, H.J.	COMP	513
Kramer, V.J.	AGRO	292	Kropp, T.	CATL	455	Kulik, H.J.	INOR	398
Kramer-Marek, G.	MEDI	361	Kros, A.	COLL	387	Kulik, H.J.	YCC	8
Kramnik, I.	ORGN	398	Kroupa, A.	INOR	580	Kulik, M.	COMP	399
Kranidis, T.	CATL	509	Kroutil, O.	GEOC	29	Kulinowski, K.M.	CHAS	15
Krannich, L.K.	WCC	12	Kroutil, W.	CATL	159	Kulkarni, S.	PMSE	803

Kulla, H.	ORGN	215	Kuo, D.	CATL	4	Kwon, B.	PMSE	437
Kulp, D.	CARB	73	Kuo, D.	ENFL	436	Kwon, B.	PMSE	463
Kumacheva, E.	CELL	65	Kuo, H.	ENFL	13	Kwon, B.	PMSE	559
Kumacheva, E.	PMSE	180	Kuo, H.D.	GEOC	65	Kwon, C.	AGRO	325
Kumagai, Y.	PHYS	217	Kuo, J.	ANYL	202	Kwon, C.	AGRO	326
Kumar, A.	PHYS	398	Kuo, J.	COLL	321	Kwon, C.	AGRO	327
Kumar, A.	ENVR	100	Kuo, J.	COLL	431	Kwon, C.	AGRO	328
Kumar, A.	ANYL	222	Kuo, J.	COLL	601	Kwon, G.	PMSE	388
Kumar, A.	ANYL	480	Kuo, J.	ANYL	556	Kwon, J.	BIOL	3
Kumar, A.	PMSE	317	Kuo, J.	INOR	418	Kwon, J.	AGFD	66
Kumar, A.A.	ANYL	57	Kuo, L.Y.	INOR	481	Kwon, J.	ENFL	282
Kumar, C.V.	COLL	159	Kuo, M.	MEDI	435	Kwon, M.	POLY	103
Kumar, C.V.	COLL	220	Kuo, M.	MEDI	366	Kwon, S.	ANYL	267
Kumar, C.V.	COLL	240	Kuo, T.	ANYL	202	Kwon, Y.	MPPG	47
Kumar, C.V.	COLL	253	Kuo, T.	ANYL	556	Kwon, Y.J.	COLL	786
Kumar, C.V.	COLL	278	Kuo, T.	COLL	321	Kwon, Y.	COMP	181
Kumar, C.V.	COLL	305	Kuo, T.	COLL	431	Kwon, Y.	BIOL	181
Kumar, C.V.	COLL	411	Kuo, T.	COLL	601	Kwon, Y.	TOXI	75
Kumar, G.	ORGN	286	Kuo, T.	ENFL	114	Kye, H.	ENVR	353
Kumar, H.V.	COLL	11	Kuo, T.	INOR	418	Kye, S.	CATL	322
Kumar, H.V.	ENVR	531	Kuo, T.	COLL	550	Kyuberis, A.	PHYS	481
Kumar, H.V.	INOR	305	Kuo, Y.	ENVR	343	Kyung, K.S.	AGRO	325
Kumar, H.V.	PMSE	747	Kupgan, G.	PMSE	541	Kyung, K.S.	AGRO	326
Kumar, H.	MEDI	48	Kuppannan, K.	AGRO	122	Kyung, K.S.	AGRO	327
Kumar, J.	PMSE	803	Kuppannan, K.	AGRO	223	Kyung, K.S.	AGRO	328
Kumar, J.	POLY	560	Kuppannan, K.	AGRO	112	Kyung, K.	AGRO	282
Kumar, K.	MEDI	88	Kupper, J.	PHYS	248	Kyung, R.	AGFD	141
Kumar, K.	ORGN	296	Kupper, J.	PHYS	260	Laaker, E.M.	INOR	485
Kumar, M.	ENVR	541	Kupper, J.	PHYS	320	Labak, A.	PMSE	650
Kumar, M.	POLY	284	Kurade, M.	ENVR	174	Labib, M.	ANYL	52
Kumar, P.	BIOL	8	Kurade, M.	ENVR	236	Labonte Wilson, M.	MEDI	153
Kumar, P.	MEDI	142	Kurade, M.	GEOC	68	Labouriau, A.	PMSE	551
Kumar, P.	ORGN	442	Kurahashi, N.	POLY	363	Labriola, C.	BIOL	297
Kumar, R.	POLY	292	Kuramoto, K.	ENVR	317	Lach, T.	NUCL	38
Kumar, R.	PHYS	224	Kurasam, J.	ENVR	789	Lachance, A.M.	PMSE	799
Kumar, S.	COLL	86	Kurczak, S.O.	NUCL	10	Lachance, T.	AGRO	297
Kumar, S.	PMSE	18	Kuriakose, J.	COLL	51	Laclair, C.	BIOL	27
Kumar, S.	PMSE	251	Kuribayashi, J.	POLY	586	Lacombe, L.	COMP	402
Kumar, S.	POLY	468	Kuroda, K.	POLY	63	Lacourse, W.R.	CHED	25
Kumar, U.	ORGN	115	Kuroita, T.	MEDI	314	Lacroix, J.	COMP	22
Kumar, U.	ORGN	506	Kurokawa, T.	MEDI	72	Ladds, G.	COMP	437
Kumar, U.	CHED	411	Kuroki, N.	COMP	251	Laduc, E.	POLY	95
Kumar, V.	MEDI	88	Kuroki, N.	COMP	430	Lafite, P.	CARB	69
Kumar, V.	MEDI	92	Kuroki, N.	AGRO	346	Lafountain, A.M.	PHYS	404
Kumar, V.	MEDI	93	Kurose, T.	PMSE	693	Lafratta, C.N.	PHYS	478
Kumar, V.	MEDI	94	Kurosu, M.	MEDI	390	Lagaron, J.	AGFD	344
Kumar, V.	COLL	442	Kurosu, S.M.	MEDI	390	Lager, G.	ENVR	92
Kumar, V.A.	ORGN	513	Kurt-Yilmaz, N.	MEDI	177	Lager, G.	GEOC	60
Kumar, V.A.	PMSE	819	Kurt-Yilmaz, N.	MEDI	233	Lagerwall, J.	CELL	57
Kumara, H.L.	AGRO	242	Kurtzman, T.P.	COMP	31	Lagerwall, J.	CELL	59
Kumarasamy, E.	PHYS	520	Kurtzman, T.P.	COMP	34	Lagu, B.	MEDI	410
Kumarasinghe, R.	ANYL	218	Kurtzman, T.P.	COMP	339	Lagüe, P.	MEDI	184
Kumarasinghe, E.S.	MEDI	445	Kurtzman, T.P.	MEDI	357	Lagüe, P.	ORGN	366
Kumari, D.	ANYL	302	Kusaka, R.	INOR	422	Lagunin, A.	CINF	160
Kumari, G.	ENFL	549	Kushida, I.	MEDI	72	Lagunin, A.	COMP	348
Kumarimaduvu Palanisamy, A.	POLY	395	Kusic, H.	COMP	559	Lagunin, A.	MEDI	401
Kumpf, R.	MEDI	282	Kusoglu, A.	ENFL	320	Lahann, J.	COLL	388
Kunai, Y.	COLL	740	Kusoglu, A.	PMSE	204	Laherty, J.	CINF	110
Kunai, Y.	ENFL	506	Kusterbeck, A.	ORGN	527	Lahiri, G.K.	INOR	499
Kunai, Y.	PHYS	535	Kütahya, C.	POLY	519	Lahiri, J.	PHYS	446
Kunal, P.	INOR	581	Kutchukian, P.	COMP	112	Lahm, G.P.	AGRO	136
Kunche, L.	COLL	168	Kuttel, M.	CARB	78	Lahtigui, O.	ORGN	614
Kundu, A.	PHYS	324	Kuttel, M.	COMP	248	Lai, S.	MEDI	322
Kundu, M.	PHYS	421	Kuwahara, Y.	CATL	149	Lai, B.	ENVR	544
Kundu, S.	ENFL	234	Kuwata, K.T.	PHYS	353	Lai, C.	AGFD	312
Kunene, T.	INOR	667	Kuykendall, T.	PHYS	493	Lai, F.Y.	ENVR	512
Kung, H.	CATL	239	Kuykendall, T.	PHYS	544	Lai, F.Y.	ENVR	790
Kung, H.	ENFL	61	Kuzmanovic, U.	ANYL	122	Lai, G.	PMSE	620
Kung, H.	INOR	535	Kuzmanovic, U.	COLL	524	Lai, J.	CATL	414
Kung, K.	ENVR	744	Kuzmenko, V.	ENFL	555	Lai, K.W.	MEDI	278
Kung, M.	CATL	239	Kuznetsov, D.	ENFL	115	Lai, M.	MEDI	82
Kung, M.	INOR	535	Kuznetsov, O.	ENFL	307	Lai, M.	MEDI	329
Kung, P.	MEDI	282	Kuznicki, A.	INOR	484	Lai, O.	AGFD	45
Kunitsky, K.	CINF	64	Kvak, O.	COLL	307	Lai, P.	ENVR	773
Kunjachan, S.	COLL	614	Kveselyte, A.	ORGN	586	Lai, R.Y.	ANYL	340
Kunjadiya, A.P.	AGFD	263	Kvetny, M.M.	ANYL	389	Lai, S.	ANYL	105
Kunkel, D.	AGRO	10	Kwak, S.	COLL	575	Lai, S.	ENFL	517
Kunkel, D.	AGRO	192	Kwak, S.	ENFL	260	Lai, S.	ENVR	14
Kunkel, G.E.	COLL	292	Kwak, S.	ENFL	34	Lai, T.	PMSE	554
Kunkel, G.E.	INOR	272	Kwak, S.	ENVR	835	Lai, T.	ENVR	379
Kunnus, K.	PHYS	107	Kwak, S.	MEDI	135	Lai, W.	ENVR	379
Kunnus, K.	PHYS	111	Kwan, K.	ENVR	648	Lail, M.A.	CATL	486
Kunnus, K.	PHYS	159	Kwan, M.L.	ORGN	602	Lail, M.A.	CATL	510
Kuno, H.	MEDI	314	Kwan, M.L.	ORGN	615	Laine, D.	CARB	40
Kunthom, R.	INOR	700	Kwan, R.	ORGN	333	Laine, D.	CARB	129
Kunugi, A.	MEDI	314	Kwan, R.	MEDI	359	Lainé, D.	CARB	38
Kunwar, D.	CATL	242	Kwangjin, P.	MEDI	359	Lainhart, B.C.	ORGN	346
Kunz, H.	PMSE	768	Kwaso, B.J.	ENFL	404	Laino, T.	COMP	101
Kunz, S.	COLL	503	Kwasny, M.	ANYL	61	Laitar, D.S.	ORGN	37
Kuo, C.	PMSE	493	Kwiatkowski, M.	POLY	134	Laitinen, T.	MEDI	187
Kuo, C.	CATL	70	Kwizera, E.	ORGN	346	Laitz, M.	ENFL	246
Kuo, C.	CATL	70	Kwofie, F.	COLL	338	Lajevic, M.	MEDI	92
Kuo, C.	CATL	141	Kwon, B.	ANYL	293	Lake, B.	INOR	94
				PMSE	411	Lakina, N.	COLL	296

Lakkaraju, S.K.	COMP	579	Landis, R.F.	COLL	689	Larsen, P.	AGRO	239
Lakkaraju, S.K.	MEDI	251	Landis, R.F.	COLL	766	Larsen, R.W.	CATL	318
Lakshmanan, A.	COLL	697	Landis, R.F.	PMSE	413	Larsen, R.W.	INOR	137
Lakshmbalabasubramaniam, S.	AGFD	138	Landis, R.F.	PMSE	526	Larsen, R.W.	INOR	247
Lakshminarasimhan, A.	MEDI	410	Landis, R.F.	POLY	379	Larsen, R.W.	PHYS	462
Lal, B.	INOR	61	Landry, M.	ENVR	835	Larsen, R.W.	PHYS	497
Lalinde, E.	ENFL	276	Landry, D.M.	ANYL	517	Larson, A.	CATL	399
Lallement, R.	PHYS	195	Landry, M.	AGFD	173	Larsson, A.	ANYL	239
Lail-Ramnarine, S.I.	CHED	278	Landry, M.	BIOL	11	Larsson, P.A.	COLL	69
Lail-Ramnarine, S.I.	CHED	287	Landry, M.	COLL	424	Larue, J.	PHYS	220
Lail-Ramnarine, S.I.	CHED	327	Landry, M.	COLL	661	La Sala, G.	COMP	75
Lail-Ramnarine, S.I.	ENFL	296	Landsberger, S.	NUCL	65	Lasarte-Aragones, G.	COLL	704
Lalman, J.A.	MPPG	21	Landskron, K.	ENFL	122	La Scala, J.	AGFD	324
Lalonde, R.	AGRO	172	Landy, K.M.	ENVR	73	La Scala, J.	CELL	44
Lalonde, R.	ORGN	464	Lane, L.A.	COLL	457	La Scala, J.	POLY	207
Lalsare, A.D.	CATL	320	Lane, M.M.	ENVR	380	Laschat, S.	ORGN	423
Lalsare, A.D.	ENFL	243	Lane, T.	COMP	529	Lasek, J.	MPPG	27
Lalsare, D.L.	COMP	320	Lane, T.	MEDI	114	Laskin, J.	MEDI	171
Lam, A.K.	MEDI	49	Lane, T.	TOXI	86	Laskin, J.	ANYL	82
Lam, A.K.	MEDI	431	Lane, T.J.	PHYS	9	Laskin, J.	ANYL	85
Lam, H.W.	ORGN	113	Lane, T.J.	PHYS	11	Laskin, J.	ANYL	86
Lam, J.	ORGN	439	Lane, T.J.	PHYS	430	Laskin, J.	ANYL	528
Lam, K.	PHYS	355	Lane, T.R.	SCHB	11	Laskowski, C.	ENFL	317
Lam, S.	CHED	12	Lang, C.	POLY	284	Lasky, M.R.	ORGN	51
Lam, T.F.	MEDI	407	Lang, E.	ENVR	640	Lassalle, B.	INOR	410
Lam, T.F.	MEDI	408	Lang, J.	ENVR	43	Laszczynski, N.	ANYL	250
Lam, V.H.	COLL	148	Lang, M.	CARB	89	Lateef, M.	BIOL	55
Lam, Y.	CATL	456	Lang, S.	PMSE	545	Latendresse, M.	COMSCI	6
Lamar, M.	ENVR	309	Lang, S.	PMSE	789	Latendresse, T.	INOR	431
Lamar, J.	AGRO	338	Lang, X.	BIOL	159	Latham, A.	AGRO	122
Lamb, J.R.	POLY	424	Langan, P.	CELL	10	Latham, A.	COLL	169
Lamb, K.N.	CHAS	38	Lange, A.	COLL	726	Latifi, R.	INOR	351
Lamb, K.N.	MEDI	149	Lange, G.	AGRO	211	Latta, D.	GEOC	66
Lamb, K.N.	MEDI	292	Lange, H.R.	COLL	482	Lattanzi, V.	PHYS	487
Lamb, M.L.	MEDI	19	Langenbacher, R.	POLY	390	Latz, A.	PHYS	343
Lamb, M.L.	MEDI	70	Langer, J.	COLL	28	Latz, E.	MEDI	4
Lambert, A.	CHED	124	Langer, R.	POLY	602	Latza, V.M.	COLL	646
Lambert, C.A.	ORGN	587	Langer, R.	PMSE	351	Lau, A.	COMP	23
Lambert, E.	INOR	480	Langer, R.	PMSE	404	Lau, B.	COLL	609
Lambert, J.E.	ENFL	268	Langerman, N.R.	CHAS	3	Lau, B.	ENVR	11
Lambert, J.	AGFD	180	Langerman, N.R.	CHAS	16	Lau, B.	PHYS	267
Lambert, T.N.	PMSE	34	Langevin, S.A.	PMSE	394	Lau, C.Y.	PHYS	245
Lambert, W.T.	AGRO	170	Langford, S.	INOR	701	Lau, C.	INOR	79
Lamberti, C.	INOR	654	Langsted, C.R.	POLY	320	Lau, D.	CHED	351
Lamberto, I.	MEDI	30	Lanieri, L.	MEDI	363	Lau, K.	ENFL	205
Lamberto, M.	ORGN	575	Lankone, R.	ENVR	73	Lau, K.	ENFL	204
Lambeth, R.H.	COMP	537	Lanorio, J.P.	INOR	710	Lau, K.K.	ENFL	41
Lambeth, R.H.	POLY	257	Lansakara, T.I.	COLL	648	Lau, L.W.	COLL	413
Lambeth, R.H.	POLY	454	Lansdell, T.A.	BIOL	217	Lauchnor, E.	GEOC	69
Lambeth, R.H.	POLY	609	Lantz, M.	AGRO	38	Laudadio, E.	ANYL	392
Lame, M.	ANYL	305	Lanyi, D.	COMP	101	Laudadio, E.	ENVR	267
Lamers, A.P.	MEDI	302	Lanzarini-Lopes, M.	ENVR	486	Lauer, M.K.	AGFD	286
Lamm, M.	I&EC	39	Lanzirrotti, A.	GEOC	38	Lauer, M.K.	CELL	5
Lammertink, R.G.	CATL	433	Lao, K.	COMP	440	Lauer, M.K.	ENVR	717
Lammertsma, K.	COMP	290	Lao, K.	COMP	548	Laughlin, L.	AGRO	303
Lammertsma, K.	ORGN	243	Lao, K.	PMSE	638	Laulhe, S.	ORGN	556
Lamore, M.	AGRO	182	Lao, L.	CELL	72	Laurence, K.	SCHB	7
Lamoureux, B.	PHYS	450	Lao, L.	COLL	334	Laurency, G.	CATL	126
Lamoureux, G.	COMP	217	Lao, L.	POLY	440	Laurens, L.M.	ENFL	479
Lampen, A.	AGFD	15	Lao, V.	BIOL	91	Lauritsen, J.	COLL	495
Lampley, M.W.	POLY	159	Lao, V.	BIOL	92	Lauro, P.	SCHB	1
Lan, L.	ANYL	17	Lapi, S.E.	NUCL	73	Lauro, P.	SCHB	3
Lan, X.	ENVR	658	Lapidus, S.H.	ANYL	247	Lauro, P.C.	SCHB	9
Lan, Y.	ENVR	376	Lapkin, A.	CATL	251	Lauro, S.	CELL	50
Lan, Y.	BIOL	271	Lapkin, A.	CINF	9	Laurson, A.B.	ENFL	18
Lan, Z.	POLY	67	Lapkin, A.	CINF	154	Laurson, A.B.	INOR	560
Lanasa, J.	PMSE	459	La Plante, E.	GEOC	40	Laurson, S.	CATL	131
Lanasa, J.	POLY	284	Lapping, J.G.	ENFL	288	Lauwaet, K.	COLL	495
Lanasa, J.	POLY	582	Lapping, J.G.	ENFL	351	Lavallee, S.	INOR	295
Lanasky, K.P.	ENVR	576	Laramee-Milette, B.	INOR	64	Laverne, J.A.	PHYS	475
Lanceros-Mendez, S.	PMSE	680	Laramee-Milette, B.	INOR	112	Laverne, J.A.	PHYS	476
Lančok, J.	CATL	326	Laranang, A.	TOXI	57	Lavi, R.	CHED	417
Landells, J.	CHAL	9	Larese, J.Z.	COLL	79	Lavik, E.B.	PMSE	350
Lander, E.	AGFD	339	Larese, J.Z.	COLL	80	Lavine, B.K.	ANYL	197
Landes, C.F.	ANYL	18	Larese, J.Z.	ENFL	298	Lavine, B.K.	ANYL	293
Landes, C.F.	ANYL	120	Larese-Casanova, P.	ENVR	70	Laviska, D.A.	INOR	345
Landes, C.F.	ANYL	220	Larese-Casanova, P.	ENVR	290	Laviska, D.A.	INOR	452
Landes, C.F.	ANYL	445	Larese-Casanova, P.	ENVR	619	Lavoie, A.	POLY	68
Landes, C.F.	MPPG	100	Larese-Casanova, P.	GEOC	44	Law, A.C.	POLY	320
Landes, C.F.	PHYS	426	Large, N.	MPPG	58	Law, G.T.	GEOC	54
Landgreen, E.	INOR	155	Lari, G.M.	CATL	480	Law, G.T.	NUCL	41
Landgreen, E.	INOR	156	Laricheva, E.N.	CHED	224	Lawless, M.S.	AGRO	63
Landgreen, E.	INOR	647	Larive, C.K.	ANYL	353	Lawless, M.S.	COMP	526
Landis, C.R.	INOR	406	Larivière, D.	ENVR	467	Lawrence, A.	ORGN	91
Landis, M.	CHED	154	Laroche, F.	COLL	787	Lawrence, D.A.	CHED	265
Landis, R.	COLL	199	Larock, A.	ENVR	515	Lawrence, J.	PMSE	114
Landis, R.	COLL	270	Larosa, S.	POLY	14	Lawrence, J.	PMSE	334
Landis, R.	COLL	297	Larrabee, C.E.	CHED	274	Lawrence, P.T.	COLL	688
Landis, R.	COLL	536	Larrabee, C.E.	CHED	337	Lawrence, R.	COLL	263
Landis, R.	COLL	695	Larsen, D.S.	PHYS	375	Lawson, B.	CHED	219
Landis, R.	ORGN	316	Larsen, E.	BIOL	198	Lawson, B.	COLL	296
Landis, R.	PMSE	561	Larsen, J.	MEDI	155	Lawson, J.	PHYS	529
Landis, R.F.	COLL	260	Larsen, M.	MEDI	155	Lawson, J.	PMSE	628

Lawson, T.	MEDI	110	Lee, C.	ENVR	414	Lee, J.	AGRO	325
Lawson, T.	PMSE	631	Lee, C.	ENVR	583	Lee, J.	AGRO	326
Lawton, M.	POLY	4	Lee, C.	COLL	327	Lee, J.	AGRO	327
Lawton, M.	POLY	55	Lee, C.	POLY	583	Lee, J.	AGRO	328
Lawton, T.	COLL	82	Lee, C.	CATL	508	Lee, J.	PMSE	457
Lawton-Rauh, A.	AGRO	105	Lee, C.	ENFL	548	Lee, J.	TOXI	30
Lay, A.	COLL	382	Lee, C.	INOR	201	Lee, J.	ANYL	136
Lay, A.	COLL	384	Lee, C.	POLY	434	Lee, J.	ANYL	137
Lay, A.	COLL	690	Lee, C.Y.	PMSE	684	Lee, J.	ANYL	139
Layne, B.H.	I&EC	12	Lee, C.	ORGN	141	Lee, J.	ANYL	141
Layton, M.E.	MEDI	279	Lee, C.	ORGN	653	Lee, J.	ANYL	162
Lazar, S.	CELL	28	Lee, C.	BIOL	8	Lee, J.	COLL	586
Lazar, S.	PMSE	730	Lee, C.	PMSE	758	Lee, J.	COLL	595
Lazare, J.	COMP	359	Lee, C.M.	TOXI	80	Lee, J.	COLL	596
Lazenby, R.A.	ANYL	261	Lee, D.	ORGN	570	Lee, J.	AGFD	139
Lazo Portugal, R.A.	AGFD	95	Lee, D.	INOR	265	Lee, J.	ENVR	792
Lazor, K.	CARB	3	Lee, D.	PMSE	185	Lee, J.	MEDI	191
Lazor, K.	CARB	72	Lee, D.	PMSE	721	Lee, J.	MEDI	455
Lazor, K.	CARB	111	Lee, D.	POLY	78	Lee, J.	ORGN	129
Lazzari, M.	POLY	380	Lee, D.	CHED	297	Lee, J.	ORGN	642
Lazzarini, C.	MEDI	130	Lee, D.	ORGN	622	Lee, J.	CATL	230
Lazzaro, S.	MEDI	151	Lee, D.	INOR	116	Lee, J.	PMSE	411
Le, A.K.	PHYS	335	Lee, D.	COLL	514	Lee, J.	PMSE	472
Le, A.	POLY	220	Lee, D.	ENFL	287	Lee, J.	AGFD	297
Le, A.	POLY	240	Lee, D.	ENVR	414	Lee, J.H.	ENVR	341
Le, A.N.	POLY	584	Lee, D.	COLL	77	Lee, J.	CINF	72
Le, A.	PHYS	207	Lee, D.	MPPG	22	Lee, J.	COMP	114
Le, D.	MEDI	372	Lee, E.	BIOL	174	Lee, J.	ANYL	204
Le, H.K.	INOR	474	Lee, E.	TOXI	75	Lee, J.	PMSE	571
Le, M.	BIOL	87	Lee, E.	BIOL	31	Lee, J.	ANYL	231
Le, N.	ANYL	25	Lee, F.	MEDI	265	Lee, J.	COLL	200
Le, N.	BIOL	48	Lee, G.	ENFL	225	Lee, J.	COLL	201
Le, P.	ENFL	450	Lee, G.	ENFL	226	Lee, J.	COLL	267
Le, P.	ENFL	451	Lee, G.	BIOL	212	Lee, J.	CARB	49
Le, V.	BIOL	83	Lee, G.	GEOC	64	Lee, J.	INOR	676
Lea, H.J.	ENVR	671	Lee, G.	MPPG	38	Lee, J.	PHYS	344
Lea, M.A.	MEDI	225	Lee, H.	ORGN	131	Lee, J.I.	MEDI	166
Leach, A.	CINF	80	Lee, H.	COLL	160	Lee, J.	PMSE	458
Leach, A.	CINF	116	Lee, H.	COLL	638	Lee, J.	PMSE	489
Leach, A.	CINF	118	Lee, H.	PMSE	381	Lee, J.	PMSE	503
Leach, A.G.	COMP	111	Lee, H.	COLL	557	Lee, J.	AGFD	139
Leach, A.G.	MEDI	17	Lee, H.	COLL	727	Lee, J.	ORGN	447
Leach, V.A.	CHED	247	Lee, H.	POLY	294	Lee, J.	ORGN	452
Leach, V.A.	INOR	679	Lee, H.	AGFD	117	Lee, J.	MEDI	455
Leadbeater, N.E.	ORGN	617	Lee, H.	ENVR	488	Lee, J.	ORGN	642
Leahigh, A.	ENVR	708	Lee, H.	COLL	201	Lee, J.	MEDI	152
Leamon, C.P.	MEDI	425	Lee, H.	ENVR	414	Lee, J.	COLL	781
Leamon, C.P.	MEDI	426	Lee, H.	ANYL	99	Lee, J.	ENVR	26
Leary, D.	INOR	105	Lee, H.	ENVR	801	Lee, J.	ENVR	433
Leary, D.	INOR	635	Lee, H.	ENFL	521	Lee, J.	ENVR	437
Leavy, T.	CHAL	23	Lee, H.	ENVR	583	Lee, J.Y.	BIOL	107
Lebarbier Dagle, V.	CATL	9	Lee, H.	MEDI	191	Lee, J.	COMP	361
Lebeau, E.L.	CHED	408	Lee, H.	MEDI	455	Lee, J.	ORGN	619
Lebedev, A.	ANYL	138	Lee, H.	ORGN	642	Lee, J.	ENVR	101
Lebens-Higgins, Z.W.	ENFL	402	Lee, H.	COMP	181	Lee, J.A.	AGRO	324
Leblanc, C.	MEDI	20	Lee, H.	COMP	582	Lee, J.	AGFD	139
Leblanc, D.R.	ENVR	49	Lee, H.	MEDI	342	Lee, J.	ENFL	209
Leblanc, D.R.	ENVR	732	Lee, H.	ORGN	201	Lee, J.	ENFL	285
Leblond, C.	PHYS	541	Lee, H.	CATL	224	Lee, J.	AGFD	121
Lebreton, J.	AGRO	308	Lee, H.	CATL	373	Lee, J.	ORGN	137
Le Breton, M.	AGFD	43	Lee, H.	CATL	425	Lee, J.	ORGN	138
Lebrilla, C.B.	AGFD	52	Lee, H.	ENFL	530	Lee, J.	ORGN	139
Lebrilla, C.B.	ANYL	419	Lee, H.	ENVR	547	Lee, J.	NUCL	69
Lecaptain, D.J.	ENVR	624	Lee, I.	ANYL	170	Lee, J.	AGFD	300
Lechter, J.	POLY	256	Lee, I.	ANYL	327	Lee, J.	COMP	507
Leckett, K.C.	MEDI	45	Lee, I.	CATL	19	Lee, J.	ANYL	470
Leclerc, M.	PMSE	540	Lee, J.H.	PHYS	8	Lee, J.	PHYS	558
Lecommandoux, S.	COLL	524	Lee, J.W.	ENFL	96	Lee, K.	PHYS	561
Lecommandoux, S.	COLL	618	Lee, J.	PMSE	502	Lee, K.	PHYS	590
Lecommandoux, S.	PMSE	119	Lee, J.	ENVR	41	Lee, K.	ENFL	404
Leconte, A.	BIOL	253	Lee, J.	BIOL	272	Lee, K.H.	INOR	582
Leconte, A.	CHED	38	Lee, J.	COLL	747	Lee, K.S.	ENVR	194
Leconte, A.M.	CHED	186	Lee, J.	PMSE	474	Lee, K.	ANYL	306
Ledbetter, R.	BIOL	262	Lee, J.	POLY	53	Lee, K.F.	PHYS	192
Lednev, I.K.	ENVR	54	Lee, J.	COLL	638	Lee, K.	BIOL	170
Le Droumaguet, B.	PMSE	280	Lee, J.	CATL	439	Lee, K.	COLL	620
Ledson, M.	AGRO	79	Lee, J.	INOR	311	Lee, K.	ENVR	583
Ledson, M.	AGRO	317	Lee, J.	ENVR	567	Lee, K.	PHYS	487
Lee, W.	PMSE	110	Lee, J.	ENVR	295	Lee, K.	ENFL	81
Lee, A.	PHYS	302	Lee, J.	ENVR	634	Lee, K.G.	AGFD	65
Lee, A.	PHYS	221	Lee, J.	AGRO	325	Lee, K.G.	AGFD	66
Lee, A.	PROF	8	Lee, J.	AGRO	326	Lee, K.G.	AGFD	333
Lee, A.	POLY	57	Lee, J.	AGRO	327	Lee, K.	MEDI	387
Lee, B.D.	COMP	372	Lee, J.	AGRO	328	Lee, K.	CATL	322
Lee, B.	ENFL	25	Lee, J.	COLL	420	Lee, K.	INOR	733
Lee, B.	COLL	762	Lee, J.	ENFL	369	Lee, K.	PMSE	456
Lee, B.	GEOC	2	Lee, J.	MEDI	373	Lee, L.	AGFD	36
Lee, B.	INOR	733	Lee, J.	MEDI	135	Lee, M.	AGRO	290
Lee, B.	COLL	327	Lee, J.D.	COLL	217	Lee, M.	CATL	365
Lee, B.	ENVR	715	Lee, J.D.	COLL	674	Lee, M.	CATL	386
Lee, C.	AGRO	378	Lee, J.D.	ENFL	332	Lee, M.	ENFL	498
Lee, C.	BMGT	7	Lee, J.D.	INOR	417	Lee, M.	ENFL	25
Lee, C.	PMSE	425	Lee, J.D.	INOR	719	Lee, M.	ENFL	96

Lee, M.	MEDI	336	Lee, Y.	INOR	718	Lennartz, S.	AGRO	22
Lee, M.	CARB	79	Lee, Y.	ORGN	437	Lennon, D.	AGRO	132
Lee, M.	ENFL	511	Lee, Y.	PHYS	194	Lennon, D.	CATL	112
Lee, M.	POLY	550	Lee, Y.	COMP	572	Lennon, D.	CATL	117
Lee, N.	POLY	313	Lee, Y.	PHYS	496	Lennon, D.	CATL	443
Lee, P.	ENVR	809	Lee, Y.	COLL	485	Lennox, C.	ORGN	434
Lee, S.	CHED	248	Lee, Y.	ANYL	139	Lennox, R.	CATL	192
Lee, S.	ORGN	623	Lee, Y.	PHYS	390	Lennox, R.	COLL	796
Lee, S.	COLL	192	Lee, Y.	PHYS	468	Lensmeyer, E.	PMSE	25
Lee, S.	COLL	212	Lee, Y.	INOR	347	Lensmeyer, E.	PMSE	215
Lee, S.	ENFL	206	Lee, Y.	INOR	348	Lenz, H.	MEDI	153
Lee, S.	ENFL	476	Lee, Y.	INOR	349	Lenz, O.	CATL	498
Lee, S.	AGFD	105	Lee, Y.	INOR	604	Leo, C.	POLY	463
Lee, S.	AGRO	282	Lee, Y.	INOR	625	Leon, D.	ENFL	488
Lee, S.	AGRO	304	Lee, Y.	INOR	714	Leon, D.R.	ANYL	421
Lee, S.	AGRO	350	Lee, Y.	ORGN	623	Leon, D.R.	CARB	10
Lee, S.	BIOL	314	Lee, Y.	PMSE	444	Leonard, J.	AGRO	31
Lee, S.	POLY	311	Lee, Y.	AGFD	300	Leonard, J.P.	MEDI	257
Lee, S.	AGFD	86	Lee, Z.	COLL	261	Leonard, J.	INOR	225
Lee, S.	GEOC	27	Leeds, J.	BIOL	157	Leonard, N.G.	INOR	21
Lee, S.	GEOC	52	Lee-Gosselin, A.	COLL	697	Leonardi, A.	PMSE	647
Lee, S.	AGFD	109	Leelananda, S.	COMP	60	Leone, S.R.	PHYS	10
Lee, S.	ENFL	171	Leelavathi, A.	CATL	231	Leone, S.R.	PHYS	13
Lee, S.	ORGN	125	Lefèvre, M.	ENFL	128	Leone, S.R.	PHYS	221
Lee, S.	TOXI	100	Leff, A.	COLL	742	Leone, S.R.	PHYS	337
Lee, S.W.	CATL	96	Lefferts, L.	CATL	435	Leone, S.R.	PHYS	450
Lee, S.	BIOL	230	Lefferts, L.	CATL	467	Leone, S.R.	PHYS	524
Lee, S.	BIOL	226	Lefker, B.A.	COMP	140	Leong, D.	BIOL	78
Lee, S.	ENVR	446	Lefwich, T.R.	COLL	237	Leonhard, K.	PHYS	230
Lee, S.	ENFL	16	Legaard, E.	ENFL	449	Leonhardt, E.E.	PMSE	332
Lee, S.	CATL	459	Legg, B.	GEOC	45	Leonhardt, N.	CHED	64
Lee, S.	MEDI	123	Legg, K.M.	ANYL	490	Leow, S.	ENFL	479
Lee, S.	CHED	370	Leggett, G.J.	INOR	576	Lepais, V.	MEDI	10
Lee, S.	MEDI	186	Leggett, M.F.	AGRO	160	Le Pape, Y.	GEOC	40
Lee, S.	CHED	156	Legler, J.	ENVR	503	Lephart, E.	AGFD	167
Lee, S.	CHED	169	Legler, J.	ENVR	712	Lepley, T.	CHED	265
Lee, S.	CHED	174	Le Grice, S.	MEDI	404	Lepont, C.	PMSE	479
Lee, S.	CHED	188	Leguizamon, S.	PMSE	94	Lepore, S.D.	CHED	300
Lee, S.	CHED	189	Leguizamon, S.	PMSE	786	Lepri, S.	MEDI	263
Lee, S.	CHED	190	Lehane, R.	INOR	768	Le Questel, J.	AGRO	308
Lee, S.	CHED	191	Lehman, R.	ANYL	485	Lequeux, N.	COLL	526
Lee, S.	CHED	192	Lehmann, S.	PHYS	217	Lequeux, N.	COLL	610
Lee, S.	CHED	332	Lehnert, K.	CINF	87	Lequeux, N.	COLL	686
Lee, S.	CHED	333	Lehr, C.	CELL	59	Lequeux, Z.	POLY	179
Lee, S.	CHED	336	Lehr, S.	AGRO	208	Lercher, J.	CATL	102
Lee, S.	INOR	209	Lehtinen, M.	COLL	13	Lercher, J.	CATL	232
Lee, S.	COMP	582	Lehtinen, M.	COLL	349	Lercher, J.	CATL	365
Lee, S.	ENFL	117	Lehtonen, J.	CELL	26	Lercher, J.	CATL	396
Lee, S.	ENFL	183	Lei, A.	ENFL	395	Lercher, J.	ENFL	501
Lee, S.	ENFL	183	Lei, E.	BIOL	122	Lercher, J.A.	CATL	1
Lee, S.	INOR	733	Lei, F.	PMSE	436	Lercher, J.A.	CATL	8
Lee, T.	BIOL	272	Lei, F.	PMSE	695	Lercher, J.A.	CATL	100
Lee, T.	INOR	132	Lei, L.	AGFD	233	Lercher, J.A.	CATL	156
Lee, T.	ENFL	25	Lei, L.	COLL	720	Lercher, J.A.	ENFL	461
Lee, T.	POLY	103	Lei, S.	ENVR	311	Lerman, Z.M.	CHED	103
Lee, T.	MEDI	301	Lei, S.	INOR	238	Lerouge, T.	PMSE	280
Lee, T.J.	PHYS	84	Lei, W.	ENFL	232	Leroux, F.R.	ORGN	351
Lee, T.	ENVR	474	Lei, X.	ENVR	681	Lesburg, C.	MEDI	342
Lee, T.D.	MEDI	83	Lei, Y.	PHYS	95	Leslie, D.	AGRO	45
Lee, T.D.	MEDI	302	Lei, Y.	BIOL	59	Leslie, R.	COLL	505
Lee, T.	PMSE	381	Lei, Y.	MPPG	6	Lessard, J.J.	POLY	115
Lee, V.	PHYS	119	Leibfarth, F.A.	PMSE	54	Lessard, J.J.	POLY	464
Lee, W.	INOR	447	Leibfarth, F.A.	POLY	603	Lester, M.K.	WCC	14
Lee, W.	POLY	524	Leibig, T.	PHYS	426	Lestrangle, P.J.	PHYS	57
Lee, W.	ORGN	129	Leick, N.	PMSE	23	Lestrangle, P.J.	PHYS	279
Lee, W.	PMSE	408	Leif, R.N.	ANYL	128	Leszczynska, A.	COMP	115
Lee, W.	PMSE	485	Leif, R.N.	ANYL	129	Letendre, L.J.	ORGN	491
Lee, W.	ENVR	28	Leif, R.N.	ANYL	241	Leth, R.	COMP	353
Lee, W.	ENVR	603	Leighton, J.L.	WCC	2	Letteri, R.A.	PMSE	55
Lee, W.	ENVR	742	Leino, R.	ORGN	65	Letteri, R.A.	PMSE	109
Lee, W.	ENVR	806	Leising, R.	ENFL	517	Letteri, R.A.	PMSE	337
Lee, W.	POLY	336	Leitch, D.	ORGN	265	Letteri, R.A.	PMSE	751
Lee, W.	PMSE	558	Leiter, K.	PHYS	117	Lettini, S.E.	CHED	161
Lee, W.	ENVR	500	Lekse, J.	CATL	256	Lettow, M.	CARB	82
Lee, W.	ENFL	91	Leleti, K.R.	MEDI	65	Leu, M.	CATL	128
Lee, Y.	AGFD	120	Lellupitiyage Don, S.	BIOL	297	Leung, E.	MEDI	11
Lee, Y.	MEDI	455	Lemetre, C.	BIOL	133	Leung, E.	MEDI	207
Lee, Y.	ORGN	642	Lemke, H.	PHYS	57	Leung, K.	ENFL	467
Lee, Y.	COLL	300	Lemmen, C.	COMP	294	Leung, K.	GEOC	34
Lee, Y.	COLL	129	Lemurell, M.	MEDI	320	Leung, K.	PHYS	225
Lee, Y.	COLL	222	Lenci, E.	ORGN	203	Leung, M.R.	MEDI	45
Lee, Y.	COLL	232	Lenci, E.	YCC	4	Leung, S.	MEDI	151
Lee, Y.	COLL	270	Lenehan, C.E.	NUCL	45	Leurs, R.	MEDI	37
Lee, Y.	COLL	483	Leng, J.	PMSE	366	Lev, B.	COMP	68
Lee, Y.	COLL	695	Leng, X.	POLY	40	Leveille, A.N.	MEDI	374
Lee, Y.	POLY	379	Lenges, C.P.	AGFD	281	Levenson, A.	ENVR	596
Lee, Y.	ORGN	534	Lengyel, G.	BIOL	98	Leventis, N.	INOR	745
Lee, Y.	PMSE	571	Lengyel, G.	CHED	203	Leventis, N.	INOR	746
Lee, Y.	POLY	358	Lengyel, G.	CHED	296	Leventis, N.	INOR	748
Lee, Y.D.	AGRO	350	Lengyel, Z.	NUCL	15	Leventis, N.	PMSE	679
Lee, Y.	COLL	758	Lenhart, J.	PMSE	156	Leventis, T.	INOR	748
Lee, Y.	COLL	228	Lenhart, J.	POLY	212	Leverick, G.	ENFL	198
Lee, Y.	INOR	717	Lenhart, J.	POLY	262	Leverick, G.	PMSE	40

Levi, M.	PHYS	441	Li, B.	POLY	542	Li, H.	PMSE	708
Levi, S.	BIOL	258	Li, B.	AGFD	165	Li, H.	AGRO	117
Levin, C.	AGFD	301	Li, B.	AGFD	195	Li, H.	AGRO	232
Levine, B.G.	COMP	164	Li, B.	ENFL	295	Li, H.	ENVR	138
Levine, B.G.	COMP	563	Li, B.	PMSE	655	Li, H.	MEDI	111
Levine, B.G.	PHYS	318	Li, B.	CHED	281	Li, H.	CATL	362
Levine, B.G.	PHYS	440	Li, B.	PMSE	804	Li, H.	PHYS	520
Levine, D.S.	COMP	552	Li, C.	AGFD	264	Li, H.	ENVR	156
Levine, M.	ANYL	130	Li, C.	COMP	445	Li, H.	ENVR	411
Levine, M.	ANYL	133	Li, C.	ENFL	342	Li, H.	MEDI	76
Levine, M.	CHED	53	Li, C.	ENVR	26	Li, H.	MEDI	409
Levine, M.	CHED	77	Li, C.	ENFL	61	Li, H.	MEDI	411
Levine, M.	CHED	437	Li, C.	CATL	192	Li, H.	ORGN	127
Levine, M.	ENVR	595	Li, C.	COLL	313	Li, H.	PMSE	227
Levine, M.	ENVR	596	Li, C.	INOR	249	Li, H.	PMSE	694
Levine, M.	ORGN	512	Li, C.	ORGN	78	Li, H.	PHYS	507
Levine, M.	PMSE	434	Li, C.	ORGN	289	Li, H.	PMSE	562
Levine, M.	WCC	26	Li, C.	MEDI	24	Li, H.	MEDI	55
Levine, R.	PHYS	75	Li, C.	MEDI	342	Li, J.	MEDI	175
Levine, R.	PHYS	254	Li, C.	COMP	64	Li, J.	COLL	398
Levine, R.D.	PHYS	256	Li, C.	MEDI	55	Li, J.	COLL	624
Levine, S.	AGRO	367	Li, C.	ENFL	279	Li, J.	COLL	788
Levine, S.	BIOL	134	Li, C.	ENFL	357	Li, J.	CHED	39
Levinger, N.E.	GEOC	1	Li, C.	COLL	297	Li, J.	INOR	561
Levintov, L.	COMP	387	Li, C.	COLL	695	Li, J.	INOR	124
Levis, R.J.	PHYS	253	Li, C.	PMSE	413	Li, J.	INOR	728
Levit, A.	COMP	71	Li, C.	POLY	379	Li, J.	ENVR	615
Levit, S.	COLL	279	Li, C.	ENVR	463	Li, J.	PMSE	808
Levitre, J.	CHED	232	Li, C.	COMP	162	Li, J.	COMP	24
Levitre, J.	CHED	234	Li, C.	PHYS	26	Li, J.	ENFL	403
Levitskaia, T.G.	NUCL	34	Li, C.	ANYL	257	Li, J.	ENVR	130
Levterov, V.	MEDI	414	Li, C.	PMSE	484	Li, J.	PMSE	481
Levy, A.	PHYS	536	Li, C.	PMSE	506	Li, J.	PMSE	482
Levy, I.J.	CHED	236	Li, C.	PMSE	691	Li, J.	PMSE	550
Levy, I.J.	CHED	239	Li, C.	CATL	277	Li, J.	COLL	571
Levy, R.	COLL	45	Li, C.	POLY	538	Li, J.	PHYS	208
Lew, T.	COLL	286	Li, C.	TOXI	15	Li, J.	PMSE	484
Lew, T.	ENFL	34	Li, C.	ENVR	723	Li, J.	COLL	167
Lew, T.	ENVR	835	Li, C.	ENFL	221	Li, J.	PMSE	586
Lewandowski, B.	AGFD	237	Li, D.	COLL	356	Li, J.	MEDI	411
Lewenstein, M.	PHYS	207	Li, D.	AGFD	64	Li, J.	AGFD	183
Lewer, P.	AGRO	223	Li, D.	AGFD	154	Li, J.	MEDI	121
Lewicki, J.P.	POLY	507	Li, D.	AGFD	257	Li, J.	ANYL	177
Lewin, S.	POLY	15	Li, D.	GEOC	14	Li, J.	ANYL	407
Lewis, C.	MPPG	25	Li, D.	MEDI	62	Li, J.	CARB	71
Lewis, D.E.	CHED	292	Li, D.	ORGN	582	Li, J.	CATL	19
Lewis, D.E.	HIST	6	Li, D.	TOXI	45	Li, J.	CATL	277
Lewis, D.E.	HIST	33	Li, D.	TOXI	46	Li, J.	ENFL	547
Lewis, D.	COLL	757	Li, E.	INOR	45	Li, J.	ENVR	30
Lewis, E.	CHED	41	Li, E.	MEDI	281	Li, J.	ENVR	178
Lewis, E.	PMSE	465	Li, F.	AGFD	27	Li, J.	ENVR	555
Lewis, H.	MEDI	364	Li, F.	ENVR	554	Li, J.	INOR	489
Lewis, J.P.	COMP	484	Li, F.	AGRO	162	Li, J.	INOR	196
Lewis, J.C.	CATL	162	Li, F.	AGRO	94	Li, J.	ENVR	244
Lewis, J.C.	ORGN	35	Li, F.	AGRO	96	Li, J.	INOR	69
Lewis, J.A.	PMSE	522	Li, F.	AGRO	172	Li, J.	AGRO	335
Lewis, J.	PRES	29	Li, F.	ORGN	83	Li, J.	ANYL	253
Lewis, K.	MEDI	428	Li, F.	ORGN	464	Li, J.	ENFL	145
Lewis, K.	ENVR	710	Li, F.	ENFL	101	Li, J.	CATL	426
Lewis, K.	COMP	127	Li, F.	COMP	561	Li, J.	CATL	472
Lewis, K.	COMP	377	Li, F.	ENVR	306	Li, J.	ENFL	124
Lewis, M.	AGRO	177	Li, F.	ENVR	737	Li, J.	MEDI	189
Lewis, M.	CHAS	4	Li, F.	CATL	207	Li, K.	ORGN	365
Lewis, M.	CHAS	52	Li, F.	CATL	437	Li, K.	CELL	16
Lewis, R.	CINF	125	Li, F.	POLY	220	Li, K.	MEDI	69
Lewis, R.A.	INOR	113	Li, F.	POLY	233	Li, K.	ORGN	524
Lewis, R.J.	ORGN	439	Li, F.	MEDI	345	Li, K.	POLY	387
Lewis, S.	BIOL	27	Li, F.	ENVR	622	Li, K.	CATL	516
Lewis, S.E.	ENVR	318	Li, G.	BIOL	95	Li, L.	ANYL	112
Lewis, W.K.	ENFL	156	Li, G.	MEDI	282	Li, L.	ANYL	132
Lewitus, D.	PMSE	792	Li, G.	PMSE	561	Li, L.	PMSE	133
Lewter, L.	MEDI	189	Li, G.	CATL	29	Li, L.	CARB	36
Ley, J.P.	AGFD	234	Li, G.	COLL	580	Li, L.	POLY	408
Ley, J.P.	AGFD	239	Li, G.	INOR	295	Li, L.	AGFD	186
Ley, S.V.	ORGN	380	Li, G.	TOXI	88	Li, L.	GEOC	49
Leyris, J.	MEDI	354	Li, G.	ANYL	81	Li, L.	MEDI	281
Leyva, C.	ENVR	35	Li, G.	MEDI	89	Li, L.	CATL	514
Leyva, D.	CHED	198	Li, G.	MEDI	189	Li, L.	POLY	322
Lezama-Pacheco, J.S.	GEOC	67	Li, G.	AGRO	202	Li, L.	ENFL	490
Lhamo, Y.	ORGN	452	Li, G.	COLL	480	Li, L.	PMSE	816
Li, A.	POLY	15	Li, G.	PHYS	75	Li, L.	POLY	154
Li, A.	ANYL	514	Li, G.	ENVR	477	Li, L.	POLY	205
Li, A.	ENVR	378	Li, G.	INOR	314	Li, L.	BIOL	144
Li, A.Y.	ORGN	289	Li, G.	INOR	317	Li, L.X.	CATL	28
Li, A.L.	COLL	488	Li, H.	ENFL	256	Li, L.	COLL	578
Li, A.	AGRO	147	Li, H.	INOR	581	Li, L.	COMP	332
Li, A.	ENFL	222	Li, H.	MEDI	84	Li, L.	ENFL	238
Li, A.	ENFL	76	Li, H.	PMSE	591	Li, L.	ENFL	245
Li, B.	ENVR	366	Li, H.	PMSE	753	Li, L.	INOR	50
Li, B.	CATL	493	Li, H.	AGFD	19	Li, M.	AGRO	239
Li, B.	ORGN	119	Li, H.	ANYL	544	Li, M.	AGRO	342
Li, B.	ENFL	210	Li, H.	PMSE	498	Li, M.	CATL	203
Li, B.	PMSE	113	Li, H.	PMSE	569	Li, M.	MEDI	25

Li, M.	COLL	522	Li, T.	MEDI	369	Li, Y.	CINF	107
Li, M.	ENFL	553	Li, V.	ENFL	414	Li, Y.	PMSE	568
Li, M.	ENFL	4	Li, V.	POLY	240	Li, Y.	AGFD	221
Li, M.	ENFL	249	Li, W.	POLY	292	Li, Y.	PMSE	318
Li, M.	ENFL	290	Li, W.	COLL	209	Li, Y.	PMSE	590
Li, M.	ENFL	291	Li, W.	COLL	712	Li, Y.	ENVR	615
Li, M.	ENVR	306	Li, W.	CARB	47	Li, Y.	PMSE	592
Li, M.	ENVR	308	Li, W.	MEDI	243	Li, Y.	BIOL	129
Li, M.	ENVR	374	Li, W.	CATL	198	Li, Y.	COLL	615
Li, M.	ENVR	737	Li, W.	CATL	370	Li, Y.	ANYL	192
Li, M.	ENVR	738	Li, W.	COLL	580	Li, Y.	MEDI	355
Li, M.	ENVR	740	Li, W.	PHYS	6	Li, Y.	COLL	398
Li, M.	AGFD	154	Li, W.	ENFL	200	Li, Y.	COMP	497
Li, M.	ENVR	366	Li, W.	PMSE	635	Li, Y.	ORGN	189
Li, M.	COLL	572	Li, W.	PHYS	197	Li, Y.	PHYS	575
Li, M.	ANYL	358	Li, W.	PHYS	198	Li, Y.	MPPG	53
Li, M.	PMSE	449	Li, W.	PHYS	386	Li, Y.	AGFD	285
Li, M.	PMSE	316	Li, W.	PMSE	752	Li, Y.	I&EC	39
Li, M.	ORGN	457	Li, W.	POLY	392	Li, Y.	CATL	25
Li, M.	ORGN	53	Li, W.	ENFL	279	Li, Y.	AGFD	281
Li, M.	ORGN	55	Li, W.	ENFL	357	Li, Y.	COLL	469
Li, M.	NUCL	36	Li, W.	ENFL	305	Li, Y.	ORGN	476
Li, P.	POLY	148	Li, W.	COLL	725	Li, Y.	ENVR	98
Li, P.Y.	COLL	623	Li, W.	CHED	58	Li, Y.	MEDI	443
Li, P.	ENVR	77	Li, W.	ORGN	415	Li, Y.	ENVR	723
Li, P.	GEOC	51	Li, W.	ANYL	216	Li, Y.	CATL	15
Li, P.	INOR	238	Li, X.	ANYL	303	Li, Y.	ENVR	621
Li, Q.	COLL	494	Li, X.	BIOL	313	Li, Y.	PMSE	67
Li, Q.	COLL	735	Li, X.	ENFL	519	Li, Y.	PMSE	739
Li, Q.	ENFL	555	Li, X.D.	BIOL	35	Li, Y.	ANYL	383
Li, Q.	ENVR	413	Li, X.D.	BIOL	197	Li, Y.	ENFL	505
Li, Q.	BIOL	305	Li, X.	ORGN	359	Li, Y.	INOR	684
Li, Q.	COLL	323	Li, X.	PHYS	145	Li, Y.	PMSE	399
Li, Q.	BIOL	76	Li, X.	AGFD	150	Li, Y.	COLL	209
Li, Q.	BIOL	241	Li, X.	INOR	165	Li, Y.	POLY	370
Li, Q.	BIOL	244	Li, X.	INOR	239	Li, Y.	PHYS	287
Li, Q.	BIOL	277	Li, X.	POLY	378	Li, Y.	PMSE	227
Li, Q.	INOR	246	Li, X.	ENVR	702	Li, Y.	PMSE	617
Li, Q.	POLY	462	Li, X.	ENFL	165	Li, Y.	PMSE	694
Li, Q.	ENVR	417	Li, X.	CATL	186	Li, Y.	ENVR	295
Li, Q.	ENVR	418	Li, X.	MEDI	45	Li, Y.	MEDI	279
Li, Q.	ENVR	419	Li, X.	AGRO	283	Li, Y.	ENFL	202
Li, Q.	ENVR	420	Li, X.	POLY	156	Li, Z.	I&EC	48
Li, Q.	ENVR	492	Li, X.	COMP	52	Li, Z.	CATL	87
Li, Q.	ENFL	249	Li, X.	COMP	159	Li, Z.	ENVR	542
Li, Q.	ENFL	292	Li, X.	COMP	206	Li, Z.	AGFD	264
Li, Q.	ENVR	557	Li, X.	COMP	420	Li, Z.	CATL	283
Li, Q.	ENVR	16	Li, X.	PHYS	57	Li, Z.	PMSE	83
Li, Q.	PMSE	529	Li, X.	PHYS	120	Li, Z.	CHED	244
Li, R.	CHED	146	Li, X.	PHYS	279	Li, Z.	INOR	17
Li, R.	BIOL	169	Li, X.	PHYS	402	Li, Z.	INOR	118
Li, R.	PMSE	337	Li, X.	AGFD	186	Li, Z.	I&EC	46
Li, R.	PMSE	751	Li, X.	AGRO	134	Li, Z.	POLY	136
Li, R.	ENFL	545	Li, X.	ENFL	144	Li, Z.	ENFL	353
Li, R.	ENFL	546	Li, X.	ENFL	465	Li, Z.	ENFL	461
Li, R.	PMSE	292	Li, X.	AGFD	183	Li, Z.	COLL	35
Li, R.	PMSE	616	Li, X.	POLY	287	Li, Z.	AGFD	27
Li, R.	ANYL	115	Li, X.	MEDI	70	Li, Z.	COMP	147
Li, R.	MEDI	360	Li, X.	PMSE	240	Li, Z.	ORGN	283
Li, S.F.	PMSE	698	Li, X.	AGFD	75	Li, Z.	POLY	578
Li, S.	CARB	43	Li, X.	AGRO	283	Li, Z.	COLL	224
Li, S.	POLY	145	Li, Y.	ENFL	479	Li, Z.	ANYL	30
Li, S.	POLY	146	Li, Y.	ENVR	177	Li, Z.	AGRO	356
Li, S.	MEDI	70	Li, Y.	ENVR	225	Li, Z.	POLY	441
Li, S.	COLL	83	Li, Y.	ENVR	230	Li, Z.	PMSE	586
Li, S.	ORGN	430	Li, Y.	ANYL	112	Li, Z.	ANYL	218
Li, S.	ENFL	114	Li, Y.	ANYL	132	Li, Z.	PMSE	462
Li, S.	PHYS	208	Li, Y.	ANYL	389	Li, Z.	POLY	322
Li, S.	POLY	305	Li, Y.	MPPG	53	Li, Z.	ENFL	490
Li, S.	POLY	619	Li, Y.	ENVR	207	Li, Z.	PMSE	796
Li, S.	CATL	85	Li, Y.	AGFD	146	Li, Z.	ENVR	782
Li, S.	ENFL	195	Li, Y.	AGFD	232	Li, Z.	ENFL	280
Li, S.	AGFD	104	Li, Y.	AGFD	313	Li, Z.	AGFD	28
Li, S.	ANYL	507	Li, Y.	AGFD	314	Li, Z.	AGFD	29
Li, S.	PHYS	458	Li, Y.	ENFL	280	Li, C.	ANYL	37
Li, S.	AGFD	204	Li, Y.	ENFL	535	Li, L.	ENVR	117
Li, S.	AGFD	261	Li, Y.	ENVR	582	Li, X.	ENFL	283
Li, S.	ORGN	402	Li, Y.	INOR	652	Lian, P.	CATL	406
Li, S.	INOR	698	Li, Y.	MEDI	294	Lian, S.	COMP	120
Li, S.	ENFL	53	Li, Y.	COLL	581	Lian, S.	ENFL	393
Li, S.	ENVR	447	Li, Y.	ENFL	326	Lian, S.	PHYS	576
Li, S.	ENVR	354	Li, Y.	CARB	47	Lian, T.	COMP	446
Li, S.	COLL	487	Li, Y.	ENVR	610	Lian, T.	ENFL	213
Li, S.	COLL	537	Li, Y.	MEDI	243	Lian, T.	PHYS	323
Li, T.	COLL	656	Li, Y.	BIOL	51	Liang, B.	INOR	59
Li, T.	ENFL	183	Li, Y.	BIOL	76	Liang, B.	MEDI	244
Li, T.	ENVR	58	Li, Y.	BIOL	95	Liang, C.	ORGN	673
Li, T.	ENVR	196	Li, Y.	CARB	28	Liang, C.	BIOL	252
Li, T.	INOR	242	Li, Y.	ENVR	13	Liang, D.	PHYS	582
Li, T.	PMSE	592	Li, Y.	COMP	419	Liang, D.	GEOC	31
Li, T.	ENFL	110	Li, Y.	CATL	196	Liang, F.	ENFL	426
Li, T.	ENVR	534	Li, Y.	GEOC	11	Liang, G.	INOR	238
Li, T.	ENVR	538	Li, Y.	CINF	84	Liang, H.	CARB	111

Liang, J.	COLL	7	Lin, B.	POLY	534	Lindemann, W.R.	COLL	593
Liang, J.	COLL	791	Lin, C.	CATL	460	Lindenmuth, D.	PMSE	798
Liang, J.	MEDI	269	Lin, C.	ORGN	428	Lindensmith, C.	MPPG	104
Liang, M.	ENVR	611	Lin, C.	COLL	174	Lindert, S.	COMP	60
Liang, M.	PHYS	9	Lin, C.	COLL	504	Lindhorst, T.K.	CARB	69
Liang, M.	PHYS	11	Lin, C.	CARB	14	Lindhorst, T.K.	COLL	532
Liang, M.	PHYS	336	Lin, C.	PHYS	207	Lindler, D.	PHYS	195
Liang, M.	PHYS	430	Lin, C.	PHYS	252	Lindmark, B.	ORGN	207
Liang, Q.	AGFD	200	Lin, C.	COLL	589	Lindovska, P.	ORGN	252
Liang, S.H.	BIOL	269	Lin, C.	COLL	212	Lindsay, A.	PMSE	141
Liang, S.H.	ENFL	537	Lin, C.	POLY	469	Lindsay, A.	PMSE	535
Liang, S.H.	ORGN	370	Lin, C.	COMP	489	Lindsay, H.A.	COMP	337
Liang, W.	ANYL	112	Lin, D.W.	MEDI	319	Lindsay, M.	CATL	253
Liang, W.	ANYL	132	Lin, F.	ANYL	102	Lindsay, R.	CHED	209
Liang, X.	ENVR	121	Lin, F.	ANYL	152	Lindsey, J.S.	ORGN	565
Liang, X.	PMSE	359	Lin, F.	ENFL	197	Lindsey, R.K.	COMP	504
Liang, X.	MEDI	55	Lin, F.	PRES	13	Lindstedt, E.	MEDI	320
Liang, X.	COLL	138	Lin, G.	I&EC	57	Lindstrom, A.	MEDI	163
Liang, X.	I&EC	20	Lin, G.	AGFD	113	Lindstrom, A.	ENVR	42
Liang, Y.	ENFL	44	Lin, H.	INOR	638	Lindstrom, A.	ENVR	43
Liang, Y.	ENVR	64	Lin, H.	PMSE	212	Lindstrom, A.	ENVR	184
Liang, Z.	INOR	50	Lin, H.	CATL	274	Lines, L.	BIOL	62
Liao, C.	ENFL	204	Lin, H.	ORGN	414	Ling, F.T.	ENVR	345
Liao, C.	ENFL	205	Lin, H.	ENVR	674	Ling, F.T.	GEOC	38
Liao, C.	COMP	24	Lin, H.	BIOL	297	Ling, L.	ENVR	537
Liao, C.	MEDI	366	Lin, H.	PMSE	600	Ling, T.	AGFD	64
Liao, V.	AGFD	70	Lin, J.	INOR	95	Ling, X.	ENVR	534
Liao, W.	AGFD	175	Lin, J.	ENFL	496	Ling, Y.	ENVR	432
Liao, W.	ENVR	342	Lin, J.	BIOL	197	Ling, Y.	ENVR	463
Liao, W.	ANYL	98	Lin, J.	ENVR	610	Ling, Y.	PMSE	1
Liao, W.	ANYL	187	Lin, L.	CATL	12	Lingel, A.	MEDI	101
Liao, W.	PMSE	750	Lin, L.	CATL	271	Lingel, A.	MEDI	281
Liao, Z.	PMSE	721	Lin, L.	COMP	55	Lingenfelter, S.C.	ENVR	749
Liaw, K.	PMSE	686	Lin, M.	PHYS	439	Lingerfelt, D.B.	PHYS	120
Liaw, K.	PMSE	783	Lin, M.	PHYS	523	Linhardt, R.J.	AGFD	148
Libardo, M.	PMSE	654	Lin, P.	NUCL	43	Linhardt, R.J.	ANYL	118
Libera, M.	ANYL	431	Lin, P.	COMP	358	Linhardt, R.J.	ANYL	121
Libera, M.	COLL	7	Lin, P.	PMSE	426	Linhardt, R.J.	BIOL	71
Libera, M.	COLL	791	Lin, P.	POLY	157	Linhares, B.	MEDI	351
Libera, M.	PMSE	132	Lin, Q.	BIOL	104	Linic, S.	CATL	140
Liberato, C.	AGRO	207	Lin, Q.	POLY	107	Linic, S.	COMP	483
Liberato, C.	AGRO	344	Lin, Q.	ENVR	723	Link, S.	ANYL	508
Licence, P.	CATL	128	Lin, Q.	MEDI	330	Link, S.	MPPG	86
Licence, P.	PHYS	379	Lin, R.	ENVR	106	Link, S.	MPPG	100
Licence, P.	PHYS	431	Lin, R.	ENFL	521	Linkov, I.	ENVR	287
Licence, P.	PHYS	495	Lin, S.	ENFL	340	Linkov, I.	ENVR	625
Liddle, J.A.	COLL	312	Lin, S.	INOR	43	Linkuviene, V.	MEDI	383
Lidston, C.	PMSE	377	Lin, S.	ENFL	246	Lin Latt, C.S.	INOR	710
Lidston, D.L.	POLY	454	Lin, S.	ENVR	56	Linnartz, H.	PHYS	195
Lieber, C.M.	MPPG	50	Lin, S.	MEDI	367	Linstrom, P.	CINF	83
Lieber, C.M.	MPPG	92	Lin, S.	MEDI	333	Linthicum, K.	AGRO	124
Liebhauser, P.	INOR	234	Lin, T.	ENVR	403	Linthicum, K.	AGRO	127
Liebman, C.	NUCL	20	Lin, T.	MEDI	319	Linthicum, K.	AGRO	360
Liechty, K.	ANYL	280	Lin, W.	CATL	453	Lintinen, K.	CELL	35
Lieder, B.	AGFD	234	Lin, X.	ORGN	303	Lionetti, D.	INOR	692
Lien, H.L.	ENVR	403	Lin, X.	I&EC	41	Liopo, A.	COLL	244
Lienert, C.	INOR	93	Lin, X.	AGFD	175	Liotta, D.	AGRO	87
Lienhard V, J.H.	ENVR	100	Lin, X.	MEDI	22	Lipford, K.	MEDI	342
Lienkamp, K.	TOXI	57	Lin, X.	ANYL	16	Li Pi Shan, C.	POLY	536
Lieu, T.	ORGN	140	Lin, Y.	PMSE	110	Lipke, M.	ORGN	678
Liew, C.	CARB	86	Lin, Y.	COLL	278	Lipomi, D.J.	PMSE	191
Lightstone, F.C.	BIOL	91	Lin, Y.	ENVR	614	Lipomi, D.J.	PMSE	262
Lightstone, F.C.	BIOL	92	Lin, Y.	PMSE	332	Lipomi, D.J.	MPPG	62
Ligny, R.	PMSE	61	Lin, Y.	PMSE	337	Lipomi, D.J.	PMSE	192
Lilholt, S.L.	POLY	521	Lin, Y.	ENFL	7	Lipomi, D.J.	PMSE	194
Lilly, K.	MEDI	424	Lin, Y.	ENVR	471	Lippa, J.	COLL	179
Lim, B.	MEDI	373	Lin, Y.	ENVR	616	Lippa, K.A.	ANYL	545
Lim, C.	ORGN	28	Lin, Y.	ENVR	580	Lippard, S.J.	INOR	765
Lim, C.	ORGN	74	Lin, Y.	CHED	172	Lippard, S.J.	INOR	769
Lim, H.	ENFL	96	Lin, Y.	CHED	204	Lippard, S.J.	ORGN	443
Lim, H.	BIOL	188	Lin, Y.	CATL	357	Lippman, R.	CHAS	36
Lim, H.	ORGN	293	Lin, Y.	ENFL	453	Lips, S.	ORGN	552
Lim, J.Y.	ORGN	419	Lin, Y.	ENFL	508	Liptak, M.D.	INOR	396
Lim, J.	COMSCI	3	Lin, Y.	INOR	73	Lipton, A.	CHAL	14
Lim, J.	ORGN	262	Lin, Y.	ENVR	329	Lira, R.	ORGN	39
Lim, J.	COLL	304	Lin, Y.	ENFL	32	Liras, S.	MEDI	151
Lim, J.	ENVR	675	Lin, Y.	ENFL	165	Liriano, M.L.	TOXI	66
Lim, J.	PMSE	682	Lin, Y.	BIOL	134	Lischka, H.	COMP	558
Lim, J.	AGRO	325	Lin, Y.	COMP	434	Lischka, H.	PHYS	153
Lim, J.	AGRO	326	Lin, Y.	ORGN	164	Lisfi, A.	INOR	99
Lim, J.	AGRO	327	Lin, Y.	ENVR	534	Liszt, K.I.	AGFD	239
Lim, J.	AGRO	328	Lin, Z.	ENVR	210	Litt, M.	PMSE	735
Lim, J.	MEDI	230	Lin, Z.	COLL	634	Littlefield, A.G.	POLY	612
Lim, N.	ORGN	546	Lin, Z.	PMSE	774	Littlefield, C.W.	ANYL	73
Lim, T.	COLL	732	Lin, Z.	POLY	469	Littlefield, C.W.	POLY	607
Lima, C.S.	CINF	24	Lin, Z.	PHYS	125	Littrell, K.	GEOC	37
Lima, L.M.	MEDI	334	Lin, Z.	PHYS	416	Liu, R.	CATL	227
Lima, R.	MEDI	113	Lin, Z.	PMSE	806	Liu, R.	ENVR	724
Limbacher, M.	COLL	253	Lin, X.	ENVR	117	Liu, Y.	ENVR	32
Limberakis, C.	MEDI	151	Linares, N.	ENFL	275	Liu, A.	ENVR	618
Limberti, S.	INOR	646	Lincoln, Z.	INOR	152	Liu, A.	ANYL	330
Limon, G.	COMP	33	Lindberg, J.	ORGN	207	Liu, A.	COLL	36
Lin, A.Y.	ENVR	379	Lindenmann, W.	COLL	322	Liu, A.	COLL	668

Liu, A.	ORGN	416	Liu, H.	COLL	795	Liu, M.	AGFD	118
Liu, A.	PMSE	71	Liu, H.	ENVR	135	Liu, M.	ENFL	373
Liu, A.	BIOL	124	Liu, H.	ANYL	496	Liu, M.	ENVR	191
Liu, B.	POLY	382	Liu, H.	ANYL	498	Liu, M.	ENFL	78
Liu, B.	COMP	367	Liu, H.	POLY	567	Liu, M.	COMP	317
Liu, B.	INOR	537	Liu, H.	PHYS	186	Liu, M.	PHYS	574
Liu, B.	ENFL	274	Liu, H.	ANYL	381	Liu, M.	ENFL	257
Liu, B.	ENFL	277	Liu, H.	COMP	420	Liu, M.	PMSE	546
Liu, B.	I&EC	52	Liu, H.	PHYS	402	Liu, M.	PMSE	668
Liu, B.	I&EC	54	Liu, H.	AGRO	335	Liu, M.	CATL	281
Liu, B.	COLL	660	Liu, H.	PMSE	544	Liu, M.	PRES	14
Liu, B.	ENFL	460	Liu, H.	COLL	436	Liu, M.	COLL	746
Liu, B.	ORGN	28	Liu, H.	MPPG	46	Liu, M.	COLL	444
Liu, B.	ENVR	794	Liu, H.	CATL	182	Liu, N.	ENFL	47
Liu, B.	POLY	240	Liu, H.	ENVR	244	Liu, N.	ENVR	694
Liu, B.	COMP	524	Liu, H.	ENVR	460	Liu, N.	CATL	451
Liu, B.	ORGN	495	Liu, H.	AGFD	332	Liu, P.	ORGN	265
Liu, C.	AGFD	194	Liu, H.	POLY	420	Liu, P.	ORGN	323
Liu, C.	ANYL	225	Liu, H.	I&EC	49	Liu, P.	ORGN	467
Liu, C.	INOR	547	Liu, J.	ENVR	343	Liu, P.	ORGN	553
Liu, C.	PMSE	154	Liu, J.	COLL	794	Liu, P.	PMSE	16
Liu, C.	PMSE	443	Liu, J.	CATL	87	Liu, P.	PHYS	342
Liu, C.	ENFL	194	Liu, J.	CATL	515	Liu, P.	ENFL	489
Liu, C.	ANYL	383	Liu, J.	COMP	277	Liu, P.	ANYL	330
Liu, C.	ENVR	372	Liu, J.	ENFL	127	Liu, P.	COLL	36
Liu, C.	ENVR	394	Liu, J.	ENVR	719	Liu, P.	ENFL	34
Liu, C.	CELL	45	Liu, J.	PHYS	179	Liu, Q.	ENVR	687
Liu, C.	ORGN	532	Liu, J.	PHYS	568	Liu, Q.	ENVR	696
Liu, C.	AGFD	245	Liu, J.	ANYL	192	Liu, Q.	AGFD	262
Liu, C.	PMSE	763	Liu, J.	AGFD	181	Liu, Q.	AGFD	257
Liu, C.	PHYS	513	Liu, J.	ENFL	386	Liu, Q.	CATL	132
Liu, C.	ENVR	617	Liu, J.	ENVR	270	Liu, Q.	PMSE	802
Liu, C.	COLL	469	Liu, J.	ENVR	579	Liu, Q.	COLL	94
Liu, C.	ENFL	486	Liu, J.	TOXI	72	Liu, R.	COLL	229
Liu, C.	POLY	318	Liu, J.	CATL	153	Liu, R.	POLY	441
Liu, C.	PMSE	332	Liu, J.	AGFD	16	Liu, R.	BIOL	206
Liu, C.	TOXI	102	Liu, J.	AGFD	232	Liu, R.	COLL	778
Liu, C.	BIOL	30	Liu, J.	AGFD	313	Liu, R.	ORGN	4
Liu, C.	ENFL	122	Liu, J.	AGFD	314	Liu, R.H.	AGFD	56
Liu, C.	PMSE	619	Liu, J.	AGRO	162	Liu, R.H.	AGFD	71
Liu, C.	ANYL	297	Liu, J.	CATL	28	Liu, S.	ENVR	532
Liu, C.	ENFL	396	Liu, J.	PMSE	763	Liu, S.	ENVR	382
Liu, C.	INOR	532	Liu, J.	POLY	392	Liu, S.	ORGN	42
Liu, D.	CATL	346	Liu, J.	ENVR	67	Liu, S.	ANYL	558
Liu, D.	CATL	348	Liu, J.L.	ENFL	221	Liu, S.Y.	ORGN	20
Liu, D.	MEDI	22	Liu, J.L.	ENFL	414	Liu, S.	ORGN	399
Liu, D.	PMSE	368	Liu, J.L.	ENFL	485	Liu, S.	MEDI	405
Liu, D.R.	BIOL	139	Liu, J.L.	ENFL	541	Liu, S.	ENVR	818
Liu, D.	CATL	15	Liu, J.L.	ENFL	545	Liu, S.	ENFL	482
Liu, D.	COMP	57	Liu, J.L.	ENFL	546	Liu, S.	PMSE	813
Liu, D.	PMSE	417	Liu, J.	ENVR	62	Liu, S.	INOR	165
Liu, D.	PMSE	454	Liu, J.	PMSE	438	Liu, S.	INOR	168
Liu, D.	CATL	351	Liu, J.	PMSE	654	Liu, S.	ENFL	375
Liu, D.	I&EC	59	Liu, J.	AGRO	239	Liu, S.	COLL	110
Liu, D.	ORGN	207	Liu, J.	AGFD	331	Liu, S.	COLL	113
Liu, D.	PMSE	742	Liu, J.	ENVR	44	Liu, S.	ENVR	597
Liu, D.	PHYS	6	Liu, J.	ENVR	182	Liu, S.	ENVR	142
Liu, F.	COMP	85	Liu, J.	ENVR	728	Liu, T.	COMP	445
Liu, F.	COMP	235	Liu, J.	ENVR	730	Liu, T.	ENFL	475
Liu, F.	ORGN	601	Liu, J.	ENVR	731	Liu, T.	INOR	665
Liu, F.	COLL	664	Liu, J.	ENVR	775	Liu, T.	INOR	192
Liu, F.	ENFL	297	Liu, J.	COLL	325	Liu, T.	ORGN	45
Liu, F.	PMSE	187	Liu, J.	COLL	410	Liu, T.T.	COLL	740
Liu, F.	PMSE	318	Liu, J.	GEOC	31	Liu, T.T.	ENFL	506
Liu, G.	ANYL	112	Liu, J.	ANYL	230	Liu, T.T.	PHYS	535
Liu, G.	ANYL	132	Liu, J.	ANYL	339	Liu, T.	PMSE	10
Liu, G.	MEDI	62	Liu, J.	ENFL	146	Liu, T.	CHED	221
Liu, G.	COLL	116	Liu, J.	ENFL	153	Liu, W.	ENFL	142
Liu, G.	COLL	647	Liu, J.	ENFL	210	Liu, W.	MEDI	282
Liu, G.	INOR	212	Liu, J.	INOR	458	Liu, W.	PMSE	586
Liu, G.	MPPG	105	Liu, J.	PHYS	227	Liu, W.	AGRO	200
Liu, G.	MPPG	108	Liu, J.	BIOL	259	Liu, W.	AGRO	288
Liu, G.	MPPG	112	Liu, J.	INOR	638	Liu, W.	AGRO	289
Liu, G.	MPPG	115	Liu, K.	ENVR	797	Liu, W.	ENVR	210
Liu, G.	ENVR	206	Liu, K.	MEDI	372	Liu, W.	ENFL	150
Liu, G.	ENVR	207	Liu, K.	PHYS	368	Liu, W.	MEDI	409
Liu, G.	PHYS	459	Liu, K.	AGFD	226	Liu, W.	COLL	434
Liu, G.	MEDI	76	Liu, K.	MEDI	24	Liu, W.	COLL	438
Liu, G.	COLL	13	Liu, K.	PMSE	752	Liu, W.	COLL	698
Liu, G.	COLL	349	Liu, K.	COMP	365	Liu, W.	INOR	579
Liu, G.	PMSE	75	Liu, L.	ORGN	186	Liu, W.	MEDI	278
Liu, G.	PMSE	389	Liu, L.	CARB	124	Liu, W.	ENVR	66
Liu, G.	PMSE	646	Liu, L.	CARB	93	Liu, W.	ANYL	488
Liu, G.	POLY	13	Liu, L.	ENVR	85	Liu, W.	COLL	794
Liu, G.	POLY	175	Liu, L.	ENVR	226	Liu, X.	CATL	25
Liu, G.	PMSE	10	Liu, L.	I&EC	39	Liu, X.	ENVR	24
Liu, G.	POLY	617	Liu, L.	ENVR	644	Liu, X.	CATL	355
Liu, G.	CATL	155	Liu, L.	AGFD	245	Liu, X.	ENVR	10
Liu, G.	PHYS	438	Liu, L.	AGFD	246	Liu, X.	CATL	203
Liu, H.	ENFL	238	Liu, L.	AGFD	317	Liu, X.	CATL	496
Liu, H.	ENFL	330	Liu, L.	PMSE	36	Liu, X.	ORGN	457
Liu, H.	INOR	50	Liu, M.	AGFD	16	Liu, X.	ORGN	96
Liu, H.	ANYL	372	Liu, M.	AGFD	75	Liu, X.	ORGN	97

Liu, X.	ORGN	303	Liu, Z.	AGFD	258	Lomas Romero, L.	CATL	316
Liu, X.	ORGN	349	Liu, Z.	ENVR	26	Lomax, H.	CATL	209
Liu, X.	ORGN	360	Liu, Z.	ENVR	437	Lomax, R.	AGRO	116
Liu, X.	PMSE	340	Liu, Z.	ANYL	373	Lombardi, J.	ANYL	97
Liu, X.	CATL	234	Liu, Z.	PMSE	579	Lombardi, J.	ANYL	168
Liu, X.	COMP	509	Liu, Z.	ENFL	135	Lombardi, J.	I&E	29
Liu, X.	MEDI	30	Liu, Z.	CATL	65	Lombardi, J.	I&E	50
Liu, X.	POLY	441	Liu, Z.	CATL	465	Lombardo, S.	CELL	22
Liu, X.	INOR	652	Lively, R.P.	ENFL	369	Lombardo, S.	CELL	54
Liu, X.	CELL	52	Lively, R.P.	I&E	25	Lomeli-Marroquin, D.	COLL	311
Liu, X.	BIOL	27	Lively, R.P.	I&E	38	Lomuscio, E.A.	CHED	160
Liu, X.	COLL	525	Lively, R.P.	PMSE	211	Lomuscio, E.A.	CHED	348
Liu, X.	COLL	130	Livermore, C.	ENVR	532	Loncaric Bozic, A.	COMP	559
Liu, X.	COLL	691	Livingston, A.G.	INOR	241	Londergan, C.H.	PHYS	488
Liu, X.	ENVR	210	Livingston, A.G.	POLY	385	Londhe, S.S.	ORGN	10
Liu, X.	ENVR	540	Liyanage, C.D.	PMSE	451	Londo, S.	PHYS	527
Liu, Y.	ANYL	407	Liyanage, D.M.	COLL	356	Loney, C.	ENFL	372
Liu, Y.	ENFL	56	Liyanage, O.T.	CARB	15	Long, B.A.	PHYS	245
Liu, Y.	ENVR	555	Liz Marzan, L.	ANYL	210	Long, D.	INOR	107
Liu, Y.	ENVR	564	Liz Marzan, L.	COLL	28	Long, H.	ENFL	319
Liu, Y.	ENVR	554	Liz Marzan, L.	COLL	32	Long, H.	CARB	71
Liu, Y.	INOR	723	Liz Marzan, L.	COLL	364	Long, J.K.	AGRO	171
Liu, Y.	ENFL	456	Lizundia, E.	CELL	69	Long, J.K.	AGRO	344
Liu, Y.	ANYL	232	Lizundia, E.	POLY	465	Long, J.R.	PMSE	208
Liu, Y.	ANYL	519	Llabani, E.	CHED	127	Long, J.W.	ENFL	46
Liu, Y.	BIOL	89	Lledó, A.	ORGN	536	Long, J.W.	ENFL	348
Liu, Y.	COLL	116	Lledo Ponsati, A.	ORGN	661	Long, J.W.	ENFL	354
Liu, Y.	COMP	505	Lloyd, A.	ORGN	577	Long, J.W.	ENFL	380
Liu, Y.	ENVR	181	Lloyd, D.L.	CARB	54	Long, J.W.	PMSE	105
Liu, Y.	ENVR	631	Lloyd, E.	POLY	559	Long, J.	CHED	230
Liu, Y.	I&E	24	Lloyd, L.	PHYS	46	Long, J.	ENFL	157
Liu, Y.	MEDI	70	Lloyd, L.	PHYS	157	Long, T.E.	I&E	36
Liu, Y.	MPPG	112	Lloyd, S.	PHYS	127	Long, T.E.	POLY	11
Liu, Y.	ORGN	446	Lo, A.	MEDI	330	Long, T.E.	POLY	143
Liu, Y.	INOR	115	Lo, C.	POLY	540	Long, T.E.	POLY	147
Liu, Y.	CATL	185	Lo, C.	MEDI	224	Long, T.E.	POLY	226
Liu, Y.	I&E	40	Lo, C.	AGFD	261	Long, T.E.	POLY	275
Liu, Y.	PMSE	807	Lo, C.	COLL	322	Long, T.E.	POLY	505
Liu, Y.	MEDI	366	Lo, E.	CINF	133	Longia, G.	CHED	217
Liu, Y.	INOR	240	Lo, K.	INOR	56	Longia, G.	CHED	220
Liu, Y.	AGFD	94	Lo, K.V.	ENVR	94	Longia, G.	COLL	751
Liu, Y.	COLL	250	Loague, Q.	INOR	725	Longia, G.	COLL	181
Liu, Y.	INOR	45	Lobanov, S.	ENVR	94	Longia, G.K.	CHED	402
Liu, Y.	ANYL	152	Lockard, J.V.	CATL	397	Longo Jr, L.S.	ORGN	579
Liu, Y.	ENFL	521	Lockard, J.V.	PHYS	222	Longo Jr, L.S.	PHYS	379
Liu, Y.	CATL	231	Lockbaum, G.L.	MEDI	123	Longo Jr, L.S.	PHYS	431
Liu, Y.	ENVR	114	Locke, M.A.	AGRO	16	Longo Jr, L.S.	PHYS	495
Liu, Y.	AGFD	313	Lockett, M.R.	ANYL	58	Lonkar, S.	CATL	201
Liu, Y.	MEDI	60	Lockhart, Z.	ORGN	663	Loomis, R.A.	COLL	680
Liu, Y.	MEDI	87	Lockwood, S.	PHYS	506	Looper, R.	ORGN	258
Liu, Y.	ENFL	157	Lodge, T.P.	POLY	150	Loos, K.	POLY	71
Liu, Y.	ENVR	782	Loeb, S.	ENVR	536	Lopano, C.	ENVR	106
Liu, Y.	ENVR	280	Loebbecke, S.	YCC	23	Loparo, J.J.	TOXI	3
Liu, Y.	ENVR	390	Loeffler, K.	PMSE	228	Lopata, K.	COMP	53
Liu, Y.	COMP	364	Loew, N.	ANYL	170	Lopata, K.	PHYS	90
Liu, Y.	ENVR	660	Loew, N.	ANYL	327	Lopata, M.	CHED	201
Liu, Y.	PHYS	508	Loew, N.	ANYL	412	Lopes, A.	COLL	660
Liu, Y.	CATL	522	Löffler, R.	MEDI	137	Lopes, A.	POLY	388
Liu, Y.	COLL	120	Lofstrand, V.	MEDI	333	Lopes, K.	COLL	271
Liu, Y.	COLL	199	Lofsson, T.	COLL	625	Lopes, K.	POLY	183
Liu, Y.	COLL	232	Logan, J.	BIOL	282	Lopez, C.	CARB	89
Liu, Y.	COLL	536	Loganathan, B.G.	ENVR	505	Lopez, E.	AGRO	279
Liu, Y.	COLL	774	Loganathan, B.G.	ENVR	508	Lopez, G.P.	COLL	488
Liu, Y.	PMSE	561	Loganathan, B.G.	ENVR	713	Lopez, G.E.	NUCL	29
Liu, Y.	POLY	379	Loganathan, B.G.	ENVR	752	Lopez, H.	COLL	604
Liu, Y.	ENFL	112	Loganathan, S.	ENVR	505	Lopez, I.	ENVR	734
Liu, Y.	CATL	102	Logie, J.	COLL	629	Lopez, J.	PMSE	33
Liu, Y.	ENFL	8	Lo Giudice, M.	COLL	566	Lopez, J.	PMSE	39
Liu, Y.	ENFL	343	Logsdon, J.	PHYS	442	Lopez, J.E.	PMSE	221
Liu, Y.	CATL	1	Loh, C.	MEDI	150	Lopez, J.E.	MEDI	330
Liu, Y.	CATL	156	Loh, D.	INOR	250	Lopez, M.	BIOL	84
Liu, Y.	INOR	189	Loh, Z.	PHYS	255	Lopez, N.	CATL	486
Liu, Y.	MEDI	441	Loh, Z.	PHYS	548	Lopez, S.A.	ANYL	410
Liu, Y.	PMSE	324	Lohman, G.J.	CHED	20	Lopez, S.A.	CATL	278
Liu, Y.	PMSE	574	Lohmann, R.	ENVR	82	Lopez, V.	INOR	608
Liu, Y.	PMSE	670	Lohmann, R.	ENVR	83	López Barreiro, D.	PMSE	726
Liu, Y.	AGRO	124	Lohr, T.	ORGN	515	Lopez-Daniel, A.	ENVR	506
Liu, Z.	ENFL	157	Lohr, T.	POLY	44	Lopez-Garcia, K.	CHED	289
Liu, Z.	AGFD	321	Lohrey, T.D.	INOR	445	Lopez Garriga, J.	BIOL	273
Liu, Z.	ENVR	562	Lohrman, J.	ANYL	77	López-Mejias, V.	INOR	721
Liu, Z.	PHYS	287	Lohrman, J.	INOR	264	Lopez Navas, J.	ENVR	553
Liu, Z.	ANYL	39	Lohse, D.	COLL	71	López-Nieto, J.M.	CATL	488
Liu, Z.	BIOL	35	Loiseau, F.	INOR	112	Lopez Quezada, L.	MEDI	116
Liu, Z.	CATL	98	Lokare, O.	COLL	98	Lopez-Reyes, G.	CHED	212
Liu, Z.	MPPG	17	Loke, D.	INOR	132	Lopez Ruiz, A.	PMSE	495
Liu, Z.	MEDI	278	Lokey, S.	COMP	476	Lopez-Ruiz, J.A.	CATL	166
Liu, Z.	MEDI	264	Lokey, S.	MEDI	151	López-Ruiz, R.	AGRO	352
Liu, Z.	COMP	388	Lokhow, A.	COMP	179	Lopolito, P.	ANYL	532
Liu, Z.	COMP	395	Lokitz, B.S.	POLY	292	Lorandi, F.	PMSE	190
Liu, Z.	COMP	417	Lolincó, A.	PROF	17	Lord, R.	INOR	563
Liu, Z.	CATL	73	Lolur, P.	ENFL	33	Lord, R.	INOR	565
Liu, Z.	MPPG	66	Lolur, P.	ENFL	97	Lord, R.	INOR	640
Liu, Z.	AGFD	200	Lomakin, J.	PMSE	650	Lord, R.	INOR	702

Loren, B.	COMSCI	9	Lu, Q.	COLL	739	Lühken, A.	CHED	401
Lorenc, C.	CARB	101	Lu, S.	PHYS	582	Luk, K.	CHED	44
Lorentz, N.	CARB	5	Lu, S.	COLL	780	Luk, Y.Y.	COLL	156
Lorenz, M.	GEOC	37	Lu, S.W.	BIOL	106	Luk, Y.Y.	MEDI	46
Loriette, V.	COLL	686	Lu, S.	PMSE	796	Luke, A.M.	CHED	403
Lorsbach, B.A.	AGRO	2	Lu, S.	ANYL	168	Lukesh, J.C.	MEDI	122
Lorsbach, B.A.	AGRO	206	Lu, T.	BIOL	155	Lukinavicius, G.	ORGN	256
Lorzing, G.R.	INOR	228	Lu, W.	AGFD	232	Lum, J.	COLL	748
Lorzing, G.R.	INOR	229	Lu, W.	PHYS	568	Lum, J.S.	POLY	447
Losada, N.	POLY	351	Lu, W.	ENVR	269	Lummiss, J.	COMSCI	2
Loschiavo, T.M.	CHED	2	Lu, W.	INOR	527	Luna, D.A.	AGFD	59
Losego, M.	PMSE	211	Lu, X.	PHYS	75	Lund, M.	COLL	154
Lothe, A.G.	ENVR	377	Lu, X.	MEDI	4	Lundberg, M.	PHYS	108
Lott, L.	COLL	225	Lu, X.	CARB	98	Lundberg, M.	PHYS	111
Lotti Diaz, L.	ORGN	367	Lu, X.	ANYL	390	Lundberg, M.	PHYS	159
Lou, H.	ENVR	681	Lu, X.	ENVR	159	Lundgren, C.A.	COLL	742
Lou, J.	CATL	446	Lu, X.	ENVR	216	Lundgren, C.A.	MPPG	15
Lou, W.	PROF	41	Lu, X.	PMSE	747	Lundgren, E.	ENVR	82
Lou, Y.	PMSE	776	Lu, X.	POLY	423	Lundgren, S.	BIOL	191
Loucks, W.H.	INOR	765	Lu, X.	AGFD	187	Lundgren, S.	PMSE	73
Loufakis, N.	COLL	479	Lu, Y.	COLL	6	Lundin, J.	PMSE	476
Lough, A.J.	INOR	300	Lu, Y.	ORGN	301	Lundin, J.	PMSE	748
Louie, S.	ORGN	401	Lu, Y.	CATL	378	Lundin, J.	POLY	443
Louie, S.M.	ENVR	258	Lu, Y.	CATL	99	Lundin, J.	POLY	553
Louie, S.G.	MEDI	153	Lu, Y.	AGRO	172	Lundin, P.M.	COLL	713
Louie, S.G.	COMP	126	Lu, Y.	ORGN	134	Luning Prak, D.J.	COMP	268
Louis, M.	INOR	295	Lu, Y.	ORGN	494	Lunn, D.	PMSE	316
Louka, F.	ENVR	669	Lu, Y.	CATL	422	Lunn, D.	PMSE	334
Lounsbury, A.W.	ENVR	421	Lu, Y.	ENVR	51	Lunt, R.R.	PHYS	446
Loupe, N.	ANYL	302	Lu, Y.	MEDI	294	Luo, F.	ENVR	723
Loupe, N.	CATL	470	Lu, Z.	ENVR	412	Luo, G.	MEDI	50
Loureiro, A.	COLL	430	Lu, Z.	INOR	360	Luo, G.	ORGN	263
Lourie, A.	ENVR	667	Luan, T.	ENVR	129	Luo, H.	ENVR	681
Love, D.	PMSE	455	Luat, E.	POLY	459	Luo, H.	INOR	98
Love, D.	POLY	79	Lubbers, N.	COMP	177	Luo, H.	POLY	148
Love, J.	INOR	278	Lubbers, N.	COMP	179	Luo, J.	ANYL	407
Love, N.	ENVR	33	Luber, E.J.	PMSE	307	Luo, J.	CATL	19
Love, N.	ENVR	682	Luber, E.J.	POLY	511	Luo, J.	ENVR	30
Love, S.	INOR	223	Luber, S.	INOR	196	Luo, J.	ENFL	475
Love, S.	INOR	711	Lubner, C.	BIOL	262	Luo, J.	INOR	665
Lovell, J.F.	COLL	460	Luby, C.J.	COLL	95	Luo, J.	ENFL	253
Lovett, T.	CHED	268	Luby, C.J.	POLY	117	Luo, J.	ENVR	553
Lovett, T.	ORGN	295	Luc, V.	ENVR	504	Luo, J.	ENVR	562
Lowden, G.	ANYL	157	Luc, V.	ENVR	714	Luo, J.	ENVR	517
Lowe, H.	PMSE	522	Luc, W.	CATL	372	Luo, J.	ENVR	753
Lowe, J.A.	MEDI	14	Lucaciu, M.	COLL	40	Luo, J.	ANYL	97
Lowe, S.W.	COLL	696	Lucaciu, M.	COLL	243	Luo, J.	ANYL	168
Lowe, S.L.	MEDI	330	Lucaks, C.M.	MEDI	302	Luo, J.	CATL	19
Lowry, J.	INOR	81	Lucas, D.	ANYL	311	Luo, J.	CATL	339
Loy, R.E.	AGFD	238	Lucas, D.	ANYL	312	Luo, J.	CATL	474
Loynachan, C.	ANYL	234	Lucas, H.R.	INOR	602	Luo, J.	COLL	298
Loza, C.X.	COLL	482	Lucas, M.	CHED	306	Luo, J.	COLL	303
Lozach, O.	COLL	544	Lucas Rodrigues, L.	POLY	120	Luo, J.	ENFL	251
Lu, J.	ENVR	81	Luccarini, J.	MEDI	10	Luo, J.	ENFL	252
Lu, A.	POLY	556	Lucchini, G.	INOR	578	Luo, J.	ENFL	547
Lu, A.	ENFL	547	Lucci, F.R.	CATL	296	Luo, J.	ENVR	556
Lu, B.	ENVR	96	Lucci, F.R.	CHED	376	Luo, J.	ENVR	606
Lu, B.	PHYS	326	Lucero, J.	CATL	364	Luo, J.	ENVR	607
Lu, C.	BIOL	127	Lucero, J.	ENFL	494	Luo, J.	ENVR	652
Lu, C.	POLY	469	Luchko, T.	COMP	33	Luo, J.	I&E	50
Lu, C.	ENVR	14	Luchko, T.	PHYS	494	Luo, J.	INOR	491
Lu, C.	POLY	263	Lucht, B.L.	ANYL	250	Luo, J.	ENVR	394
Lu, D.	COLL	301	Lucht, B.L.	ANYL	252	Luo, J.	COMP	490
Lu, G.J.	COLL	697	Lucht, B.L.	ANYL	522	Luo, L.	ENVR	129
Lu, H.	INOR	633	Lucht, B.L.	PHYS	61	Luo, L.	ANYL	438
Lu, H.	ENVR	191	Luci, D.K.	MEDI	302	Luo, M.	PMSE	807
Lu, H.	MEDI	56	Lucian, M.	ENVR	227	Luo, M.	MEDI	345
Lu, H.S.	AGFD	281	Lucio, A.A.	COLL	550	Luo, Q.	ENFL	172
Lu, H.	COLL	630	Luckham, P.F.	INOR	241	Luo, Q.	POLY	165
Lu, H.	ENVR	831	Ludowieg, H.	COMP	1	Luo, R.	MEDI	398
Lu, J.	CHED	334	Ludwig, J.	ORGN	49	Luo, S.	ORGN	407
Lu, J.	TOXI	76	Ludwig, J.	ORGN	284	Luo, S.	INOR	76
Lu, J.	ENFL	105	Ludwig, J.	ORGN	386	Luo, W.	COLL	536
Lu, J.	ENFL	149	Ludwig, J.	PHYS	14	Luo, X.	ENVR	240
Lu, J.	CATL	331	Ludwig, K.	CHED	109	Luo, X.	ENVR	601
Lu, J.	INOR	729	Ludwig, T.	CATL	145	Luo, Y.	PHYS	148
Lu, J.	ENVR	187	Lueckheide, M.J.	INOR	477	Luo, Y.	CELL	23
Lu, J.	ENVR	472	Lueckheide, M.J.	INOR	478	Luo, Y.L.	COMP	22
Lu, J.	ENVR	522	Luecking, U.T.	MEDI	272	Luo, Y.L.	COMP	406
Lu, J.	ENVR	679	Luedecke, K.	INOR	150	Luo, Y.L.	COMP	469
Lu, L.	POLY	281	Luedecke, K.M.	INOR	644	Luo, Y.L.	COMP	545
Lu, L.	ENFL	216	Luef, K.P.	POLY	277	Luo, Y.	ENVR	648
Lu, L.	ENVR	365	Luef, K.P.	POLY	298	Luo, Y.	AGRO	16
Lu, M.	INOR	504	Luef, K.P.	POLY	429	Luo, Z.	COMP	291
Lu, M.	AGFD	115	Luering, A.D.	ENFL	182	Luo, Z.	MPPG	43
Lu, M.	ANYL	117	Luengo, G.S.	COLL	406	Luo, Z.	INOR	19
Lu, M.	ORGN	174	Luengo, J.	MEDI	25	Luo, H.	CATL	84
Lu, M.	ORGN	420	Luescher, M.U.	BIOL	284	Lupi, L.	PHYS	398
Lu, M.	AGFD	212	Luetgebaucks, C.	GEOC	35	Lupton, S.J.	AGRO	329
Lu, N.	PMSE	196	Lugin, M.	COLL	786	Luque, C.	CHED	272
Lu, P.	ENVR	782	Lugo, J.	BIOL	161	Luscombe, C.K.	PMSE	163
Lu, P.	INOR	261	Lugo, J.J.	COLL	213	Luscombe, C.K.	PMSE	326
Lu, P.	POLY	232	Lugosan, A.M.	INOR	447	Lusk, R.	NUCL	6

Lustig, S.	MEDI	443	Ma, D.	ENFL	333	Machado, G.	ENVR	764
Lustig, S.	POLY	260	Ma, D.	ENVR	439	Machado, G.	PMSE	464
Lustig, S.	POLY	456	Ma, D.	MPPG	3	Machado, R.	PMSE	680
Luther, D.	COLL	232	Ma, E.	COMP	188	Machado, R.	PMSE	812
Luther, D.	COLL	774	Ma, F.	ENVR	238	Machesky, M.L.	GEOC	29
Luther, D.	ORGN	316	Ma, H.	AGFD	19	Machoke, A.	ENFL	433
Luther, D.	PMSE	561	Ma, H.	AGFD	50	Maciulis, N.	INOR	542
Luther, D.C.	COLL	270	Ma, H.	AGFD	168	Maciulis, N.	INOR	594
Luthey-Schulten, Z.	COMP	258	Ma, H.	AGFD	194	Maciuszek, M.	MEDI	100
Luthy, R.G.	ENVR	379	Ma, H.	TOXI	45	Mack, H.	MEDI	318
Luthy, R.G.	ENVR	428	Ma, H.	ENVR	27	Mack, J.	ORGN	216
Luthy, R.G.	ENVR	429	Ma, H.	POLY	157	Mack, K.	ORGN	149
Luthy, R.G.	ENVR	431	Ma, H.	COLL	650	Mackay, A.	ENVR	661
Lutkenhaus, J.L.	POLY	192	Ma, H.	ENFL	536	Mackellar, J.	CHED	406
Lutz, C.G.	AGRO	368	Ma, H.	PMSE	528	Mackellar, J.	CHED	407
Lutz, J.	ANYL	476	Ma, J.	MEDI	108	Mackerell, A.D.	COMP	26
Lütz-Bueno, V.	CATL	68	Ma, J.	MEDI	322	Mackerell, A.D.	COMP	579
Lutze, J.	AGRO	190	Ma, J.	ENVR	502	Mackerell, A.D.	MEDI	251
Luu, Q.H.	ORGN	99	Ma, J.	ORGN	581	Mackerell, A.D.	MEDI	351
Luu, T.	CARB	5	Ma, J.	COMP	266	Mackey, M.D.	COMP	226
Lux, J.	NUCL	84	Ma, J.	ENVR	454	Mackey, M.D.	COMP	363
Lux, S.	PHYS	60	Ma, J.	ENVR	523	Mackey, M.D.	MEDI	159
Luxton, T.	ENVR	292	Ma, K.	CATL	388	Mackie, K.	MEDI	87
Luxton, T.	ENVR	356	Ma, L.	GEOC	30	Mackiewicz, M.R.	COLL	131
Luz, I.	CATL	486	Ma, M.	COLL	489	Mackiewicz, M.R.	COLL	202
Luz, I.	CATL	510	Ma, M.	PMSE	651	Mackiewicz, M.R.	COLL	314
Luzung, M.	ORGN	82	Ma, M.	PMSE	802	Macknight, W.J.	POLY	590
Luzuriaga, M.A.	COLL	83	Ma, M.	AGRO	82	Mackoy, T.	COMP	47
Luzzio, F.A.	MEDI	394	Ma, M.	AGRO	251	Maclachlan, J.L.	ANYL	148
Luzzio, F.A.	ORGN	393	Ma, N.	ENFL	4	Maclachlan, J.L.	ANYL	467
Lv, H.	CATL	471	Ma, R.	PHYS	8	Maclachlan, J.L.	ENVR	120
Lv, H.	INOR	380	Ma, R.	INOR	729	Maclachlan, J.L.	PRES	6
Lv, J.	ENVR	587	Ma, R.	ORGN	500	Maclachlan, J.L.	SCHB	9
Lv, J.	ENVR	693	Ma, R.	ORGN	98	Maclachlan, M.J.	CELL	69
Lv, J.	ENVR	762	Ma, S.	CATL	92	Maclaren, D.A.	CATL	117
Lv, J.	ENVR	647	Ma, S.	I&E	33	Maclaughlin, C.M.	COLL	512
Lv, L.	AGFD	25	Ma, S.	ANYL	488	Macleod, M.J.	PMSE	611
Lv, X.	TOXI	76	Ma, W.	PMSE	287	Macmahon, S.	AGFD	11
Lv, Y.	PHYS	582	Ma, X.	ORGN	646	Macneil, S.	PMSE	582
Ly, A.	MEDI	49	Ma, X.	CATL	250	Macor, J.E.	MEDI	56
Ly, H.T.	INOR	195	Ma, X.	CATL	378	Macor, J.E.	MEDI	364
Ly, M.	ANYL	342	Ma, X.	CATL	379	Macpherson, I.S.	CARB	57
Ly, V.K.	POLY	104	Ma, X.	ENFL	461	Macrae, M.	BIOL	194
Lyalin, A.	CATL	264	Ma, X.	PMSE	207	Macvicar, R.	CHED	184
Lye, D.	POLY	37	Ma, X.	PMSE	563	Madalengoitia, J.S.	ORGN	568
Lye, G.	ENFL	422	Ma, Y.	CATL	505	Madariaga, A.	CINF	5
Lygin, A.V.	AGRO	74	Ma, Y.	PHYS	362	Madariaga, A.	CINF	46
Lyle, S.	CHED	54	Ma, Y.	PHYS	555	Maddeboina, K.	AGRO	84
Lynch, B.	MEDI	14	Ma, Y.	ANYL	341	Madden, B.	AGRO	8
Lynch, C.	CHED	324	Ma, Y.	PHYS	297	Madden, J.E.	AGFD	330
Lynch, M.	COLL	472	Ma, Y.	PHYS	184	Maddess, M.	MEDI	311
Lynd, N.A.	PMSE	527	Ma, Y.	I&E	38	Maddipati, P.	AGRO	130
Lynd, N.A.	POLY	530	Ma, Y.	CELL	64	Madin, A.	CINF	169
Lynd, N.A.	POLY	532	Ma, Y.	GEOC	50	Madin, A.	ORGN	13
Lynde, B.	PMSE	90	Ma, Y.	ANYL	83	Madison, L.R.	PHYS	119
Lynn, M.A.	CHED	43	Ma, Y.	CATL	35	Madix, R.J.	CATL	176
Lynn, M.A.	CHED	240	Ma, Y.	ENVR	234	Madix, R.J.	CATL	390
Lynn, M.A.	CHED	249	Ma, Y.	COLL	664	Madrhimov, S.	POLY	426
Lynn, M.A.	INOR	399	Ma, Y.	ENVR	493	Madras, G.	PMSE	605
Lyons, A.	ORGN	446	Ma, Y.	ANYL	431	Madrid, P.B.	COMSCI	3
Lyons, A.	ORGN	449	Ma, Y.	ANYL	425	Madrid, P.B.	COMSCI	6
Lyons, L.J.	COMP	326	Ma, Y.	ENFL	53	Madsen, A.S.	MEDI	209
Lyons, T.	ENVR	73	Ma, Y.	ENVR	447	Madsen, A.S.	MEDI	220
Lystrom, L.	COMP	281	Ma, Y.	ORGN	686	Madsen, A.S.	MEDI	384
Lystrom, L.	COMP	373	Ma, Y.	ENVR	83	Madsen, L.	PHYS	142
Lystrom, L.	COMP	389	Ma, Z.	MEDI	322	Madsen, L.A.	PMSE	176
Lystrom, L.	COMP	524	Ma, Z.	MEDI	108	Madsen, L.A.	POLY	287
Lyu, J.	COMP	71	Maag, A.R.	ENVR	179	Madsen, L.A.	POLY	291
Lyu, L.	ENVR	571	Maag, A.R.	ENVR	304	Madugundu, G.	TOXI	79
Lyu, S.	ENVR	404	Mabon, R.	ENFL	305	Madura, J.D.	CHED	362
Lyu, W.	CARB	32	Mabrouk, P.A.	CHED	421	Maeda, N.	CATL	352
Lyu, W.	ENFL	103	Macalush, B.	INOR	514	Maeda, R.	PMSE	155
Lyvén, B.	PMSE	724	Maccuspie, R.I.	COLL	172	Maeda, S.	ENVR	818
L'Helias, N.	AGRO	249	Maccuspie, R.I.	COLL	474	Maedler, S.	AGRO	108
M. Leung, L.M.	ENFL	534	Macdonnell, F.M.	INOR	570	Maegley, K.	MEDI	282
M'Jid, I.	PMSE	189	Macdougall, L.	PMSE	672	Maertens, L.A.	TOXI	16
Ma, Y.	AGRO	162	Macdougall, P.J.	CHED	9	Maestri, M.	CATL	466
Ma, Y.	MEDI	15	Macdougall, P.J.	ORGN	314	Magano, J.	ORGN	32
Ma, A.	MEDI	345	Macdougall, T.	CHED	9	Magano, J.	ORGN	601
Ma, A.W.	PMSE	663	Mace, C.	ANYL	11	Magano, J.	YCC	16
Ma, B.	MEDI	82	Mace, C.	ANYL	15	Magarinos, P.	CINF	116
Ma, B.	TOXI	38	Mace, C.	COLL	95	Magarinos, P.	CINF	118
Ma, B.	TOXI	64	Mace, C.	COLL	688	Magee, D.I.	ORGN	654
Ma, B.	TOXI	81	Mace, C.	POLY	117	Magenau, A.J.	PMSE	478
Ma, B.	PMSE	245	Macfarlane, R.	COLL	757	Magenau, A.J.	POLY	31
Ma, B.	CARB	75	Macfarlane, R.	COLL	763	Magenau, A.J.	POLY	343
Ma, C.	ENFL	267	Macfarlane, R.	PMSE	20	Magenau, A.J.	POLY	584
Ma, C.	ENVR	543	Macfarlane, R.	PMSE	272	Mager, J.	COLL	437
Ma, C.	ENVR	270	Macfarlane, D.	ENFL	113	Maggi, V.	COLL	50
Ma, C.	ENVR	554	Macgillivray, L.	COLL	326	Magiera-Mularz, K.	BIOL	146
Ma, D.	ORGN	376	Macha, P.	COLL	163	Magina, R.	AGFD	123
Ma, D.	COLL	525	Macha, P.	COMP	392	Maglia, F.	PHYS	60
Ma, D.	ENFL	10	Machado, C.	POLY	269	Magness, S.T.	ANYL	324

Magre, M.	ORGN	307	Mako, T.	CHED	437	Manasi, R.	COLL	268
Mague, J.T.	ORGN	455	Mako, T.	ENVR	596	Manaster, A.J.	PMSE	766
Magurudeniya, H.	COLL	761	Makornwattana, M.	AGFD	296	Manas-Zloczower, I.	POLY	208
Mah, A.	ENVR	490	Makowski, L.	COMP	351	Manbeck, G.	INOR	252
Mah, R.	MEDI	20	Makris, T.M.	ENVR	312	Manchester, J.	MEDI	70
Mahadevan-Jansen, A.	COLL	459	Makriyannis, A.	CHAS	46	Manchin, C.	MEDI	118
Mahaffey, M.J.	AGRO	171	Makriyannis, A.	MEDI	60	Mancin, F.	COMP	49
Mahajani, N.S.	ORGN	182	Makriyannis, A.	MEDI	61	Mancini, R.J.	BIOL	6
Mahal, L.K.	BIOL	117	Makriyannis, A.	MEDI	87	Mancuso, A.	MEDI	246
Mahanthappa, M.K.	PMSE	250	Maksachev, A.	ENVR	341	Mandal, A.	PMSE	427
Mahanthappa, M.K.	POLY	251	Maksiutenko, P.	PHYS	593	Mandal, C.	INOR	745
Mahardy, K.	CHED	238	Makura, Y.	CARB	21	Mandal, C.	INOR	746
Maharjan, A.	PMSE	388	Makwana, K.M.	BIOL	239	Mandal, C.	INOR	748
Mahbuba, D.	BIOL	207	Malakar, P.	PHYS	325	Mandal, D.	NUCL	51
Mahbuba, D.	BIOL	241	Malamakal, R.M.	PHYS	390	Mandal, I.	ORGN	68
Mahbuba, D.	BIOL	244	Malani, R.S.	ENFL	448	Mandal, M.	ENFL	315
Mahdaly, M.	COLL	658	Malca, M.	ORGN	217	Mandal, P.	ENVR	789
Mahdavi-Amiri, Y.	BIOL	79	Maldonado, L.F.	AGFD	159	Mandsberg, N.K.	POLY	513
Mahendra, S.	ENVR	377	Maldonado, S.	CHED	370	Mane, J.	MEDI	311
Mahendran, R.	COLL	780	Maldonado-Torres, S.	AGRO	85	Manek, E.	COLL	332
Maher, K.	GEOC	33	Maleczka, R.E.	ORGN	125	Manetsch, R.	COMP	381
Maher, M.A.	CHED	85	Maleczka, R.E.	ORGN	126	Manetsch, R.	ORGN	643
Mahim, A.A.	BIOL	283	Malek, B.	ORGN	444	Manetsch, R.	ORGN	644
Mahl, T.	AGRO	159	Malek, M.	BIOL	190	Manevich, A.	CHED	83
Mahmoud, A.	CHED	346	Malerich, J.P.	ORGN	262	Manfredsson, F.	ENFL	488
Mahmoud, A.	MEDI	450	Malerich, J.P.	CINF	54	Mangan, M.	AGRO	264
Mahmoud, J.	INOR	572	Malerich, J.P.	COMSCI	3	Mangini, V.	COLL	50
Mahmoud, M.A.	COLL	510	Malerich, J.P.	COMSCI	6	Mangion, I.K.	ANYL	560
Mahmoud, M.A.	INOR	309	Maletskyi, Z.	COLL	100	Mangir, N.	PMSE	582
Mahmoud, N.	COLL	679	Maley, A.	ANYL	213	Mangold, J.	NUCL	50
Mahmoudi, M.	COLL	766	Malfatti, M.A.	BIOL	91	Mangyan, M.R.	ORGN	56
Mahmoudi, M.	TOXI	95	Malfatti, M.A.	BIOL	92	Manhart, M.W.	ANYL	216
Mahmud, K.	CHED	441	Malfatti, S.	ANYL	491	Maniam, S.	INOR	701
Mahmud, K.	SCHB	21	Malhotra, D.	ENFL	80	Manichev, V.	BIOL	314
Mahon, E.A.	COLL	140	Malhotra, M.	COLL	240	Manikonda, A.	ENVR	641
Mahon, Z.	ENVR	245	Malhotra, S.	MEDI	88	Manion, J.A.	COMP	462
Mahoney, A.B.	CHED	62	Malhotra, S.V.	MEDI	92	Manjavacas, A.	HIST	3
Mahoney, M.	COLL	22	Malhotra, S.V.	MEDI	93	Manke, D.R.	CHED	254
Mahurin, S.M.	I&E	55	Malhotra, S.V.	MEDI	94	Manke, D.R.	CHED	443
Mahurin, S.M.	POLY	148	Malik, C.K.	TOXI	106	Manke, D.R.	HIST	5
Mahvi, D.	PMSE	477	Malik, C.	TOXI	4	Manke, D.R.	INOR	301
Mahvi, D.	PMSE	814	Malik, K.	ENFL	19	Manke, D.R.	INOR	690
Mai, D.J.	PMSE	237	Malinauskiene, V.	ORGN	586	Manley, E.	POLY	333
Mai, D.J.	PMSE	452	Malipatel, S.	ORGN	502	Manlove, A.	BIOL	294
Mai, L.	ENFL	37	Malkin, D.S.	AGRO	226	Mann, A.	ORGN	685
Mai, L.	ENFL	106	Malko, A.	COLL	121	Mann, D.	POLY	30
Mai, X.	ENVR	777	Malko, D.	PHYS	365	Mann, J.E.	PHYS	482
Maier, G.	POLY	161	Malkoch, M.	PMSE	48	Mann, V.	COLL	447
Maimone, T.J.	AGRO	168	Malkoch, M.	PMSE	99	Mann, V.R.	MPPG	68
Main, M.	INOR	688	Malkoch, M.	PMSE	621	Manna, A.	ANYL	376
Main, M.	POLY	444	Malkoch, M.	PMSE	724	Manna, C.	PMSE	58
Main, M.	POLY	558	Malkoch, M.	POLY	393	Manni, S.M.	POLY	258
Maini Rekdla, V.	BIOL	131	Malkoch, M.	POLY	394	Manni, S.M.	POLY	446
Maini Rekdla, V.	CHED	117	Mallam, A.	COMP	62	Manning, H.C.	COLL	459
Maini Rekdla, V.	CHED	131	Mallareddy, N.	ENVR	124	Manning, K.	POLY	37
Maini Rekdla, V.	CHED	134	Mallia, A.V.	CHED	100	Manoharan, M.	COLL	393
Maini Rekdla, V.	CHED	136	Mallia, A.V.	COLL	308	Manor, B.C.	INOR	426
Mainolfi, N.	MEDI	150	Mallia, A.V.	COLL	755	Manson, D.	BIOL	299
Mainz, V.V.	HIST	11	Mallia, C.	ENFL	517	Mansoor, H.	INOR	310
Mainz, V.V.	HIST	26	Mallidi, S.	COLL	51	Mansoor, S.	COLL	695
Maiorana, A.	POLY	208	Mallikaratchy, P.	ANYL	165	Mansoorieh, Y.	PMSE	187
Maitra, N.	PHYS	69	Mallikaratchy, P.	ANYL	379	Mansour, A.N.	ENFL	348
Maitra, N.	PHYS	73	Malling, R.E.	AGRO	274	Mansouri, K.	AGRO	19
Maitra, N.T.	COMP	50	Mallinoud, P.	BIOL	62	Mansouri, K.	ANYL	100
Maitra, N.T.	COMP	402	Mallipeddi, S.	MEDI	60	Mansouri, K.	ENVR	115
Maitra, S.	MEDI	142	Mallouk, T.E.	ENFL	505	Manteau, B.	MEDI	71
Maitra, S.	ORGN	442	Malloy, M.	INOR	470	Manteau, B.	ORGN	569
Majesté, C.E.	ORGN	554	Malloy, M.	INOR	609	Mantel, A.	ENVR	635
Maji, R.	CATL	499	Mallya, S.	CINF	54	Mantel, A.	PMSE	517
Maji, R.	COMP	233	Mallya, S.	COMSCI	3	Mantese, J.	POLY	164
Majid, A.A.	ENFL	375	Malmgren, M.	ORGN	207	Manthey, J.A.	AGFD	252
Majikes, J.M.	COLL	312	Malmstadt, N.	CATL	168	Manthiram, A.	ENFL	138
Majima, T.	INOR	204	Malmstadt, N.	INOR	31	Manthiram, A.	PHYS	116
Majorski, S.A.	ENVR	624	Malmstadt, N.	INOR	581	Manthiram, K.	CATL	34
Majumdar, C.	BIOL	294	Malollari, K.	PMSE	255	Manthiram, K.	CATL	366
Majumder, S.	COLL	372	Malone, J.	AGRO	72	Manthiram, K.	ENVR	795
Makabenta, J.M.	COLL	297	Maloney, D.J.	MEDI	302	Mantooth, B.A.	POLY	257
Makabenta, J.M.	COLL	695	Maloney, E.K.	MEDI	363	Mantooth, L.	COLL	703
Makabenta, J.M.	PMSE	413	Malonzo, C.	INOR	248	Mantovani, G.	PMSE	336
Makarov, V.	COMP	529	Maloubier, M.	NUCL	32	Manu, N.	INOR	321
Mäkelä, J.	PMSE	631	Maltais, R.	BIOL	189	Manurung, Y.	CHED	204
Makeneni, S.	COMP	395	Maltais, R.	MEDI	375	Manyanga, F.	BIOL	180
Makhlynets, O.	BIOL	70	Malvestiti, I.	ORGN	432	Manyanga, F.	CHED	65
Makhlynets, O.	BIOL	85	Mamakhel, A.	ENFL	279	Manyanga, F.	CHED	72
Makhlynets, O.V.	BIOL	225	Mamakhel, A.	ENFL	357	Manyar, H.	CATL	119
Makhlynets, O.V.	BIOL	235	Mammetkulyev, M.	COLL	802	Manzano, J.S.	CATL	52
Makhlynets, O.V.	INOR	174	Mamontov, E.	GEOC	4	Manzano-Chinchon, P.	MEDI	33
Maki, S.L.	CHED	300	Mampreian, D.	MEDI	445	Manzano-Chinchon, P.	MEDI	36
Maki, S.	BIOL	106	Man, H.	COLL	480	Manzano-Chinchon, P.	MEDI	38
Makino, A.	POLY	303	Man, T.	COLL	698	Manzano-Chinchon, P.	MEDI	335
Mako, T.	ANYL	130	Manabe, T.	POLY	303	Mao, C.	ENFL	353
Mako, T.	ANYL	133	Manaksettharn, S.	INOR	366	Mao, C.	INOR	475
Mako, T.	CHED	77	Manas, S.	INOR	15	Mao, D.	AGRO	49

Mao, G.	ANYL	438	Marks, J.	CATL	519	Martinez, N.W.	ANYL	9
Mao, H.	COLL	55	Marks, R.	CHED	13	Martinez, T.J.	COMP	85
Mao, J.	ENVR	370	Marks, T.J.	INOR	338	Martinez, T.J.	COMP	235
Mao, J.	ENVR	109	Marks, T.J.	PMSE	396	Martinez, T.J.	ORGN	245
Mao, J.	ENVR	758	Marks, T.J.	POLY	44	Martinez, T.J.	PHYS	178
Mao, L.	INOR	441	Marks, T.J.	POLY	333	Martinez, C.	MEDI	446
Mao, S.	MEDI	239	Marmolejo, A.F.	CINF	5	Martinez, L.M.	MEDI	446
Mao, S.	PMSE	754	Marmolejos, J.M.	PHYS	483	Martinez Baez, E.	INOR	758
Mao, W.L.	COLL	384	Marmorstein, R.	CHED	171	Martinez-Baez, E.	GEOC	46
Mao, W.L.	INOR	73	Marnett, L.J.	MEDI	60	Martinez-Calvo, M.	ANYL	210
Mao, W.L.	PHYS	396	Marold, J.	CHED	241	Martinez-Martinez, M.	MEDI	33
Mao, X.	ENFL	258	Maroske, S.	HIST	29	Martinez-Martinez, M.	MEDI	36
Mao, X.	ENFL	356	Marotta, A.R.	INOR	433	Martinez-Martinez, M.	MEDI	38
Mao, X.	ENVR	310	Marquard, S.L.	INOR	634	Martinez-Martinez, M.	MEDI	335
Mao, Y.	AGFD	38	Marques, I.	ORGN	419	Martinez-Martinez, L.	PHYS	276
Mao, Y.	ANYL	323	Marques, M.	MEDI	157	Martinez-Martinez, L.	PHYS	277
Mao, Z.	CATL	411	Marques, M.	MEDI	164	Martinez-Martinez, L.	PHYS	316
Mapa, M.	BIOL	83	Marques, M.	TOXI	51	Martinez Mayorga, K.	CINF	5
Mapp, A.K.	BIOL	119	Marques, M.	TOXI	62	Martinez Mayorga, K.	CINF	46
Mapp, A.K.	BIOL	195	Marquete, C.	ANYL	204	Martinez-Solorio, G.	CHED	294
Mapp, A.K.	BIOL	221	Marquez, D.	ENVR	666	Martinez Valdivia, E.	CHED	306
Mapp, A.K.	ORGN	281	Marras, A.E.	PMSE	414	Martini, D.	AGFD	191
Mar, A.	PMSE	307	Marreto, R.	CINF	143	Martini, F.	CARB	37
Maragh, P.T.	INOR	179	Marrett, J.	INOR	249	Martin-Martinez, F.	PMSE	726
Marangoz, A.	INOR	567	Marrett, I.	INOR	656	Martinot, T.A.	MEDI	24
Marashio, A.	MEDI	113	Marrink, S.	COMP	103	Martins, I.	TOXI	51
Marasni, R.	COLL	216	Marriott, M.	PHYS	398	Martins, J.C.	INOR	619
Marasni, R.	COLL	467	Marro, E.	POLY	35	Martins, J.C.	POLY	316
Marbella, L.	CHED	362	Marschilok, A.C.	ENFL	347	Martins Amaral, P.	INOR	738
Marbella, L.	COLL	318	Marschilok, A.C.	ENFL	466	Martyn, D.E.	ANYL	149
Marbella, L.	COLL	675	Marschilok, A.C.	INOR	486	Martyn, D.E.	CHED	81
Marcano, A.	INOR	727	Marschilok, A.C.	MPPG	9	Marujo-Teixeira, S.	COMP	106
Marcelis, L.	INOR	64	Marschilok, A.C.	PRES	10	Marusak, K.	ENFL	500
Marcélis, L.	INOR	112	Marsh, A.	COMP	342	Maruyama, Y.	COMP	252
Marce-Villa, P.	CATL	209	Marsh, A.L.	CHED	84	Marx, M.A.	MEDI	144
March, A.	PHYS	112	Marsh, B.	PHYS	450	Marx, P.	PMSE	704
March, A.	PHYS	206	Marshak, M.P.	CATL	206	Marx, P.	PMSE	772
Marchand, J.	BIOL	152	Marshak, M.P.	ENFL	559	Marx, P.	POLY	77
Marchese, P.	CHED	228	Marshak, M.P.	INOR	49	Marx, T.	CHED	28
Marchioro, A.	GEOC	35	Marshak, M.P.	INOR	350	Marzabadi, C.E.	WCC	15
Marciel, A.	POLY	367	Marshall, M.	POLY	104	Marzabadi, C.E.	WCC	17
Marciniak, L.	INOR	578	Marshall, A.	PHYS	578	Marzorati, M.	AGFD	309
Marcinkowski, M.	CATL	296	Marshall, E.	AGRO	344	Mascarenas, J.L.	ANYL	210
Marcischak, J.C.	INOR	303	Marshall, J.	TOXI	69	Mascareno, A.	COLL	43
Marcischak, J.C.	ORGN	606	Marshall, K.	COMP	345	Maschmeyer, T.	CATL	254
Marcotte, E.M.	COMP	62	Marshall, L.	MEDI	26	Mase, N.	ORGN	152
Marcu, A.	CINF	133	Marshall-Roth, T.	CATL	213	Mase, N.	ORGN	154
Marcu, J.	CHAS	5	Martell, S.	CATL	444	Mase, N.	PMSE	363
Marcu, J.	CHAS	6	Martell, S.	PHYS	491	Maseras, F.	ORGN	477
Marcu, J.	CHAS	9	Martens, C.C.	PHYS	68	Mashaka, T.	CHED	184
Marcu, J.	CHAS	42	Martens, F.	AGFD	125	Mashuta, M.S.	INOR	495
Marcu, J.	CHAS	45	Martens, J.	NUCL	53	Mashuta, M.S.	INOR	510
Marcus, A.H.	PHYS	4	Martens, S.	POLY	29	Masi, M.	AGRO	140
Marcus, C.	NUCL	8	Martil, M.	CHED	347	Masiello, D.J.	MPPG	96
Marder, T.B.	ORGN	587	Martin, A.	CHED	194	Masiello, D.J.	PHYS	359
Marengo, J.	AGRO	87	Martin, A.	CHED	269	Maskey, S.	COMP	268
Margalef, J.	ORGN	477	Martin, A.P.	CHED	196	Maskrey, T.	MEDI	298
Marggi Poullain, S.	PHYS	15	Martin, A.	PMSE	421	Mason, A.F.	POLY	489
Marggi Poullain, S.	PHYS	257	Martin, B.	PHYS	273	Mason, D.	INOR	282
Marguet, S.C.	INOR	559	Martin, C.	INOR	320	Mason, D.	PRES	5
Marhaba, T.	ENVR	770	Martin, C.	ANYL	480	Mason, J.S.	COMP	436
Marhaba, T.	ENVR	819	Martin, C.	PMSE	317	Mason, J.S.	MEDI	306
Maria, A.	NUCL	34	Martin, C.	COMP	330	Mason, K.E.	ANYL	241
Maria, A.A.	ENVR	465	Martin, E.	CHED	324	Mason, K.E.	ANYL	491
Marianelli, A.	COLL	435	Martin, H.	POLY	166	Mason, M.	ORGN	288
Mariani, Z.	CHED	315	Martin, I.	PMSE	471	Mason, M.D.	ENVR	119
Marianski, M.	CARB	16	Martin, J.	PMSE	622	Mason, R.P.	MEDI	97
Marianski, M.	CARB	82	Martin, J.	CATL	328	Mason, S.E.	COMP	573
Marin, A.	COLL	157	Martin, J.R.	COLL	143	Mason, S.E.	ENVR	267
Marin, C.	CATL	256	Martin, M.	INOR	573	Mason, S.E.	GEOC	26
Marin, G.B.	CINF	166	Martin, N.	PHYS	405	Masoud, A.	PMSE	120
Marin, G.B.	ENFL	102	Martin, N.	CHED	262	Massadeh, S.	PMSE	536
Marin, G.B.	ENFL	423	Martin, P.D.	INOR	158	Massalha, N.	ENVR	746
Marin, J.	ORGN	386	Martin, R.J.	AGRO	277	Massanés, T.	CHED	138
Marin, M.	ORGN	242	Martin, R.L.	INOR	420	Massari, A.M.	PHYS	380
Marinas, B.J.	ENVR	780	Martin, S.M.	PMSE	320	Massengale, J.R.	I&EC	8
Marincol, D.	CHED	273	Martin, S.M.	POLY	470	Masser, K.A.	PMSE	156
Marincic, K.	AGRO	228	Martin, T.	CATL	32	Massey, S.C.	PHYS	407
Marinescu, S.	CATL	45	Martin, T.	AGRO	19	Massey, S.C.	PHYS	410
Marino, L.B.	MEDI	118	Martina, K.	ORGN	214	Massi, L.	PMSE	625
Mark, J.	INOR	435	Martin-Drumel, M.	PHYS	487	Massiani, P.	CATL	380
Mark, L.O.	ENVR	301	Martin-Drumel, M.	PHYS	558	Massirer, K.B.	MEDI	160
Mark, M.F.	INOR	314	Martinelli, J.R.	ORGN	134	Masson, J.	ANYL	114
Mark, M.F.	INOR	317	Martinez, A.	PMSE	368	Masson, J.	ANYL	117
Marker, S.C.	INOR	60	Martinez, A.	POLY	492	Masson, J.	POLY	241
Markland, T.	COMP	32	Martinez, A.W.	ANYL	9	Masson, P.	MEDI	10
Markley, J.L.	MEDI	48	Martinez, A.	CHAS	42	Masters, A.	CATL	254
Markley, J.L.	ORGN	629	Martinez, B.	CHED	207	Maston, E.	INOR	41
Markova, L.	PHYS	47	Martinez, J.S.	POLY	187	Mastorovich, C.	CHED	37
Markovic, N.M.	CATL	471	Martinez, J.	NUCL	27	Mastrocinque, F.	INOR	449
Markovic, N.M.	ENFL	9	Martinez, K.L.	INOR	273	Masud, A.	ENVR	139
Markovski, J.	ENVR	422	Martinez, K.	ENVR	114	Masuda, M.	ORGN	47
Markovski, J.	ENVR	488	Martinez, M.B.	PMSE	23	Masuda, M.	ANYL	500

Masuda, S.	CATL	248	Matulis, D.	MEDI	383	Mcbriarty, M.	GEOC	63
Masuda, T.	CATL	177	Matunas, R.M.	ORGN	653	Mcbriarty, M.E.	GEOC	62
Masuko, S.	BIOL	207	Matus-Meza, A.	MEDI	169	Mcbride, J.R.	COLL	517
Masuko, S.	BIOL	241	Matuzkiewicz, J.	MEDI	370	Mcbride, M.	PMSE	171
Masuko, S.	BIOL	244	Matute, R.A.	ORGN	240	Mcbride, M.	POLY	492
Masuko, S.	BIOL	277	Matveeva, V.	COLL	296	Mcbride, M.K.	PMSE	368
Masunov, A.	PHYS	570	Matyjaszewski, K.	COLL	747	Mcbride, M.	POLY	106
Maswadeh, Y.	ENFL	547	Matyjaszewski, K.	PMSE	139	Mcbride, R.	ENVR	640
Matam, S.	CATL	114	Matyjaszewski, K.	PMSE	179	Mcbride, S.	COLL	555
Matayoshi, M.	AGFD	74	Matyjaszewski, K.	PMSE	190	Mccabe, M.	MEDI	25
Matchett, M.	MEDI	50	Matyjaszewski, K.	PMSE	474	Mccabe, M.N.	PHYS	136
Matchett, M.	MEDI	51	Matyjaszewski, K.	POLY	2	Mccabe Dunn, J.	ORGN	85
Materna, K.	COMP	485	Matyjaszewski, K.	POLY	105	Mccall, B.J.	CINF	100
Mateu-Sanchis, N.	ORGN	13	Matyjaszewski, K.	POLY	222	Mccallum, M.	CHED	301
Mathavan, A.	PMSE	426	Matyjaszewski, K.	POLY	537	Mccamant, D.W.	INOR	314
Mathavan, A.	PMSE	426	Mauger, F.	COMP	53	Mccamant, D.W.	INOR	317
Mathea, S.	MEDI	54	Maupin, C.M.	COMP	416	Mccammon, J.A.	CHED	363
Mathe-Allainmat, M.	AGRO	308	Maurer, J.J.	AGRO	203	Mccammon, J.	BIOL	14
Mather, P.T.	POLY	4	Maurer, J.A.	COMP	574	Mccammon, J.	COMP	143
Mather, P.T.	POLY	55	Maurer, J.A.	INOR	307	Mccammon, J.	COMP	250
Matherly, L.H.	MEDI	185	Maurer, J.A.	POLY	612	Mccammon, J.	COMP	265
Mathers, R.T.	POLY	224	Mauro, J.	ORGN	593	Mccammon, J.	COMP	542
Mathes, B.M.	MEDI	330	Mauro, J.	COMP	582	Mccammon, J.	COMP	543
Mathew, T.	ENFL	70	Mausner, L.F.	NUCL	9	Mccammon, J.	COMP	571
Mathew, T.	ENFL	100	Mausner, L.F.	NUCL	10	Mccammon, J.	MEDI	248
Mathew, T.	ORGN	190	Mausner, L.F.	NUCL	11	Mccampbell, N.	CHED	282
Mathew, T.	ORGN	613	Mauws, C.	INOR	439	Mccann, S.	AGRO	344
Mathews, J.P.	ENFL	179	Mavila, S.	PMSE	171	Mccardle, K.	INOR	557
Mathews, S.	AGFD	103	Mavila, S.	POLY	82	Mccarley, R.L.	ANYL	315
Mathieu, C.	POLY	87	Mavila, S.	POLY	418	Mccarley, R.L.	ANYL	396
Mathieu, J.	ENVR	307	Mavila, S.	POLY	432	Mccarron-Stewart, S.	CHED	121
Mathieu, J.	ENVR	308	Mavlan, M.	CELL	17	Mccarron-Stewart, S.	CHED	123
Mathieu, J.	ENVR	608	Mavrikakis, M.	CATL	147	Mccarthy, M.	PHYS	590
Mathiowetz, A.	COMP	140	Mavrogiannaki, E.	CHED	260	Mccarthy, M.C.	PHYS	487
Mathiowetz, A.	MEDI	151	Maxwell, D.N.	CHED	167	Mccarthy, M.C.	PHYS	561
Mathiowetz, K.	ANYL	302	Maxwell, E.M.	CHED	40	Mccarthy, T.J.	PMSE	83
Mathis, T.	ENFL	83	May, A.W.	POLY	307	Mccartney, F.	COLL	140
Mathis, T.	ENFL	170	May, A.	INOR	479	Mccarty, H.B.	ENVR	87
Mathis, T.	PHYS	21	May, B.M.	ENFL	402	Mccaslin, D.R.	BIOL	169
Mathur, A.	PROF	38	May, E.R.	COMP	142	Mccauley, J.	MEDI	82
Mathys, S.	AGRO	338	May, E.R.	COMP	255	Mccauley, J.P.	AGFD	328
Matlock, M.	COMP	459	May, L.T.	COMP	25	Mccauley, J.P.	AGRO	222
Mato, J.	COMP	158	May, P.C.	MEDI	330	Mccauley, J.P.	ENVR	381
Matolin, V.	CATL	326	May, P.S.	COMP	479	Mcclain, E.J.	ORGN	71
Matos, J.	AGFD	173	May, T.	PMSE	603	Mcclarin, G.	COMP	335
Matranga, C.	CATL	256	May, V.	COMP	24	McClements, D.	AGFD	229
Matsen, M.	POLY	242	Maye, M.M.	COLL	194	McClements, D.	PMSE	435
Matsika, S.	PHYS	40	Maye, M.M.	COLL	198	Mcclory, A.	ORGN	149
Matsika, S.	PHYS	70	Maye, M.M.	PHYS	479	McCloskey, B.D.	ENFL	373
Matsika, S.	PHYS	196	Mayer, B.P.	ANYL	243	McCloskey, B.D.	PMSE	244
Matson, E.M.	INOR	48	Mayer, B.	ENVR	827	Mcclung, H.L.	AGFD	311
Matson, E.M.	INOR	52	Mayer, S.	MEDI	71	Mcclure, J.	COLL	742
Matson, E.M.	INOR	663	Mayer, S.	ORGN	569	Mcclure, J.P.	MPPG	15
Matsubara, Y.	CARB	29	Mayers, J.	PHYS	462	Mccobb, T.D.	ENVR	49
Matsuda, A.	CARB	122	Mayes, M.	COLL	163	Mccollum, J.M.	POLY	504
Matsuda, S.	MEDI	63	Mayes, M.	COMP	392	Mccomb, M.E.	ENFL	488
Matsugi, A.	PHYS	290	Mayes, M.L.	PHYS	510	Mcconnell, L.L.	AGRO	117
Matsui, J.K.	WCC	4	Mayfield, J.	CINF	11	Mcconnell, L.L.	AGRO	232
Matsui, M.	COLL	533	Mayfield, J.	CINF	35	Mcconnell, L.L.	AGRO	297
Matsui, M.	PMSE	790	Mayfield, J.	CINF	162	Mcconnell, L.L.	AGRO	361
Matsukata, M.	CATL	79	Mayfield, J.	CINF	170	Mcconnell, M.D.	AGRO	27
Matsumoto, H.	COLL	591	Maynard, H.D.	ORGN	328	Mcconney, C.	POLY	509
Matsumoto, H.	ENVR	317	Maynard, H.D.	POLY	81	Mcconnon, C.L.	MEDI	32
Matsumoto, K.	MEDI	96	Maynes, A.J.	INOR	660	Mccoole, M.	AGRO	24
Matsumoto, S.	MEDI	63	Mayo, A.V.	CHED	3	Mccord, J.	ENVR	42
Matsumoto, S.	ORGN	151	Mayo, D.H.	COLL	403	Mccord, J.	ENVR	43
Matsumoto, Y.	CARB	27	Mayo, T.	ENVR	241	Mccord, J.	ENVR	184
Matsumoto, Y.	ORGN	239	Mayoral, I.	INOR	540	Mccormick, A.	COLL	5
Matsuo, A.	MEDI	73	Mayorow, I.S.	CINF	59	Mccormick, R.L.	CATL	401
Matsushita, T.	MEDI	378	Mayowa, A.	BIOL	55	Mccormick, R.L.	ENFL	178
Matsuzaki, Y.	AGRO	346	Mayumi, K.	PMSE	154	Mccormick, R.L.	ENFL	419
Mattei, S.	CHED	239	Mayumi, K.	PMSE	443	Mccormick, T.	INOR	258
Mattes, Z.F.	BIOL	46	Mayzus, I.	CINF	59	Mccormick, T.	INOR	375
Matthäus, B.	AGFD	44	Mazaheripour, A.	COMP	51	Mccorvy, J.	COMP	71
Matthew, A.N.	MEDI	177	Mazeau, E.	CATL	154	Mccourt, M.	MEDI	190
Matthew, A.N.	MEDI	233	Maziarz, K.	CHED	322	Mccourt, M.	MEDI	424
Matthews, B.	ANYL	213	Mazitschek, R.	CHED	136	Mccourt, M.	MEDI	453
Matthews, K.	AGRO	376	Mazur, E.	PHYS	590	Mccooy, A.B.	PHYS	119
Matthews, K.	AGRO	388	Mazzolari, A.	AGRO	86	Mccooy, B.	CINF	54
Matthews, M.	BIOL	308	Mazzoleni, L.R.	ENVR	352	Mccracken, J.L.	INOR	605
Matthews, M.	INOR	766	Mbanga, B.L.	PMSE	248	Mccracken, J.L.	INOR	606
Matthews, R.	PMSE	607	Mbarushimana, P.	POLY	525	Mccullagh, M.	ENFL	159
Mattos, B.	CELL	26	Mcallister, M.	AGRO	132	Mcculloch, I.	PMSE	328
Mattos, C.	COMP	149	Mcallister, R.	AGRO	43	Mccully, C.	BIOL	182
Mattos, C.	PROF	24	Mcallister, R.	AGRO	156	Mccully, C.	INOR	185
Mattoussi, H.M.	COLL	709	Mcalpine, I.J.	MEDI	282	Mccune, C.D.	BIOL	264
Mattson, A.E.	CHED	298	Mcanally, R.E.	PHYS	5	Mccunn, L.R.	PHYS	314
Mattson, A.E.	MEDI	374	Mcananama-Brereton, S.	COMP	494	Mccurry, D.	ENVR	21
Mattson, A.E.	ORGN	109	Mcatee, R.	ORGN	269	Mccurry, D.A.	CHED	370
Mattson, A.E.	ORGN	354	Mcatee, R.	ORGN	285	Mccusker, E.	AGRO	94
Mattson, E.	INOR	695	Mcatee, C.C.	ORGN	285	Mccusker, J.K.	COMP	525
Mattson, K.M.	PMSE	316	Mcbane, G.C.	PHYS	538	Mccusker, J.K.	INOR	698
Mattsson, T.R.	PHYS	551	McBreen, P.H.	ENFL	284	Mccusker, J.K.	PHYS	162

Mcdaid, H.M.	MEDI	391	Mcisaac, A.R.	COMP	324	Meazza, M.	ORGN	102
Mcdaniel, R.M.	POLY	584	Mcisaac, J.	TOXI	71	Meazza, M.	ORGN	306
Mc Daniel, K.F.	MEDI	22	Mckay, A.Y.	ENFL	305	Meazza, M.	ORGN	620
Mcdonagh, J.	COMP	43	Mckay, C.	BIOL	130	Mebel, A.M.	ENVR	112
Mcdonagh, J.L.	COMP	461	Mckayle, C.	PROF	40	Mebel, A.M.	INOR	430
Mcdonald, A.R.	INOR	393	Mckee, T.	MEDI	14	Mecking, S.	PMSE	410
Mcdonald, D.	COMP	381	Mckeithan, C.	PHYS	497	Meckler, S.M.	PMSE	178
Mcdonald, M.B.	PMSE	37	Mckendry, I.	COLL	499	Mecozzi, S.	COLL	330
Mcdonald II, D.	PHYS	250	Mckendry, R.	ANYL	234	Medas, K.	CHED	302
Mcdonough, C.A.	ENVR	83	Mckenna, A.M.	ENVR	88	Medina, J.C.	MEDI	21
Mcdonough, R.K.	ENVR	576	Mckenna, C.E.	BIOL	298	Medina, J.C.	MEDI	108
Mcdougall, J.	AGRO	155	Mckenzie, R.	COLL	72	Medina, J.C.	MEDI	322
Mcdowell, M.	CATL	24	Mckenzie, S.G.	INOR	172	Medina, V.F.	ENVR	476
Mcdowell, M.	PRES	29	Mckeown, B.A.	ENFL	118	Medina Cruz, D.	BIOL	52
Mcdowell, S.	ORGN	577	Mckeown, B.A.	INOR	20	Medina Franco, J.	CINF	21
Mcduffie, E.	MEDI	188	Mckeown, B.A.	INOR	683	Medina Franco, J.J.	CINF	153
Mceachran, A.	AGRO	29	Mckeown, N.B.	PMSE	2	Medina-Franco, J.L.	CHED	78
Mceachran, A.	AGRO	107	Mckernan, J.	ENVR	175	Medina-Franco, J.L.	MEDI	120
Mceachran, A.	ANYL	100	Mckerrall, S.	MEDI	278	Medintz, I.	COLL	441
Mceachran, A.	ANYL	286	Mckibbin, P.	BIOL	294	Medintz, I.	COLL	704
Mceachran, A.	ENVR	115	Mckiernan, H.E.	ANYL	490	Medler, K.	AGFD	213
Mceachran, A.	ENVR	152	Mckiernan, K.A.	WCC	5	Medlin, J.W.	CATL	269
Mceldrew, M.	PHYS	18	Mckillican, B.P.	AGRO	246	Medlin, J.W.	COLL	423
Mceldrew, M.	PHYS	65	Mckinnell, J.	MEDI	26	Medlin, J.W.	ENVR	301
Mcelmurry, S.P.	ENVR	105	Mckinney, K.	CATL	405	Medvedev, D.G.	NUCL	9
Mcelmurry, S.P.	ENVR	682	Mckinzie, D.L.	MEDI	330	Medvedev, D.G.	NUCL	10
Mcelwee-White, L.	INOR	633	Mclaughlin, J.	PROF	4	Meechan, R.	MEDI	453
Mcelwee-White, L.	INOR	747	Mclaughlin, C.	COLL	629	Meegoda, J.	ENVR	817
Mcennis, K.	PMSE	495	Mclaughlin, E.C.	ORGN	51	Meehan-Atrash, J.	CHAS	49
Mcentee, M.L.	COLL	336	Mclaughlin, E.C.	ORGN	175	Meek, K.M.	POLY	195
Mcewen, J.	CATL	296	Mclaughlin, P.	COMP	6	Meenakshisundaram, S.	CATL	482
Mcewen, J.	CATL	410	Mclaughlin, P.	COMP	234	Meenakshisundaram, V.	POLY	143
Mcewen, L.R.	CINF	58	Mclaughlin, P.	PHYS	210	Meenakshisundaram, V.	POLY	505
Mcewen, L.R.	CINF	113	Mclaughlin, P.	PHYS	485	Meepagala, K.M.	AGRO	143
Mcewen, L.R.	CINF	137	Mclaughlin, S.P.	AGRO	120	Meepagala, K.M.	AGRO	145
Mcewen, L.R.	PRES	8	Mclaughlin, S.P.	AGRO	322	Megan, K.	MEDI	428
Mcfadden, E.	BIOL	124	Mclean, W.	MEDI	206	Megginson, R.	COLL	149
Mcfadden, J.	AGRO	122	Mclemore, J.B.	CHED	284	Mehari, T.	CHED	439
Mcfarland, E.W.	CATL	294	Mcleod, K.	CHED	201	Mehio, N.	ENFL	558
Mcfarlane, J.	I&EC	8	Mcleod, R.	MEDI	342	Mehlenbacher, B.	COLL	236
Mcgann, C.	PMSE	73	Mcleod, R.R.	POLY	82	Mehlenbacher, M.	BIOL	258
Mcgann, C.	PMSE	558	Mclernon, B.	INOR	696	Mehlenbacher, M.	INOR	767
Mcgann, C.	POLY	553	Mcmahon, C.	BIOL	227	Mehlenbacher, R.	COLL	382
Mcgann, C.L.	POLY	443	Mcmahon, D.G.	MPPG	68	Mehlenbacher, R.	COLL	384
Mcgath, M.	POLY	49	Mcmahon, J.B.	ORGN	72	Mehlenbacher, R.	COLL	690
Mcgaughey, B.	AGRO	23	Mcmahon, S.	COLL	630	Mehmood, R.	INOR	398
Mcgaughey, B.	AGRO	26	Mcmahon, S.	COLL	783	Mehrotra, N.	COLL	186
Mcgaughey, B.	AGRO	59	Mcmaster, M.	POLY	208	Mehta, A.	CARB	12
Mcgee, D.	POLY	437	Mcmillan, D.G.	ANYL	329	Mehta, A.Y.	CARB	27
Mcgee, D.	COMP	370	Mcmillan, D.G.	COLL	255	Mehta, A.S.	ENFL	539
Mcgee, L.R.	MEDI	21	Mcmillan, K.	ENVR	392	Mehta, A.	CATL	57
Mcgee, M.	ENFL	34	Mcmillan, S.	PMSE	570	Mehta, A.	ENVR	384
Mcgee, S.	AGRO	24	Mcmullen, A.	COLL	506	Mehta, N.	MEDI	310
Mcgee, S.	AGRO	364	Mcmurray, J.W.	I&EC	10	Mehta, N.	CARB	74
Mcgibbon, G.	AGRO	224	Mcmurray, J.W.	I&EC	11	Mehta, S.	ORGN	56
Mcgill, R.A.	ORGN	527	Mcmurray, J.W.	I&EC	14	Mehta, Y.R.	CHED	295
Mcgill, S.	INOR	756	Mcnally, T.	PMSE	269	Mehta, Y.R.	ORGN	389
Mcginty, H.	CINF	13	Mcnally, T.	PMSE	589	Mehtala, J.	ENVR	821
Mcginty, H.	CINF	135	Mcnamara, C.	BIOL	94	Mei, D.	CATL	268
Mcgough, K.	CHAL	16	Mcnamara, L.E.	ANYL	341	Mei, D.	CATL	451
Mcgovern, S.E.	PHYS	511	Mcnamara, P.	ENVR	827	Mei, D.	COLL	427
Mcgowan, M.	MEDI	24	Mcnamara, W.R.	INOR	376	Mei, H.	ENVR	490
Mcgowan, M.	MEDI	342	Mcnaughton, R.	COLL	480	Mei, J.	ANYL	321
Mcgowan, P.	INOR	563	Mcneely, C.	CHED	307	Mei, J.	PMSE	533
Mcgowan, P.	INOR	565	Mcneely, J.	INOR	421	Mei, W.	PMSE	459
Mcgowan, P.	INOR	702	Mcneely, J.	POLY	94	Mei, W.	PMSE	488
Mcgrath, J.	ORGN	143	Mcneill, C.R.	PMSE	661	Mei, W.	POLY	582
Mcgregor, D.M.	NUCL	29	Mcneill, K.P.	AGRO	17	Meier, M.S.	ENFL	364
Mcgregor, D.M.	NUCL	59	Mcnelles, S.A.	PMSE	707	Meijer, E.	COMP	481
Mcgrier, P.	PMSE	12	Mcnelles, S.A.	POLY	387	Meimanova, A.	COLL	10
Mcgrier, P.	PMSE	210	Mcnicholas, B.J.	INOR	334	Meinhart, C.D.	COLL	776
Mcguigan, A.P.	ANYL	60	Mcphee, H.	ANYL	227	Meirelles, M.A.	PMSE	46
Mcguiggan, P.M.	POLY	49	Mcquade, J.	ENFL	292	Meirelles, M.A.	PMSE	442
Mcguinness, E.	PMSE	211	Mcquaw, C.	COMP	345	Meissner, D.C.	ENVR	150
Mcguire, B.	PHYS	487	Mcqueen, T.	INOR	434	Meister, K.	BIOL	247
Mcguire, B.	PHYS	561	Mcqueen, T.	INOR	440	Meister, S.	CATL	190
Mcguire, M.	AGRO	266	Mcqueen, T.	PHYS	241	Mejia, M.J.	MEDI	144
Mcguire, M.	AGRO	266	Mcqueen, T.	PHYS	243	Mejia-Avedaño, S.	ENVR	44
Mcguirk, C.	INOR	368	Mcquiston, E.A.	I&EC	48	Mejia-Avedaño, S.	ENVR	182
Mchardy, S.F.	MEDI	194	Mcshane, E.J.	PMSE	244	Mejia Cruz, L.A.	COLL	778
Mchugh, J.	CHED	54	Mcshane, M.	ANYL	325	Mejia Oneto, J.	MEDI	44
Mchugh, C.	MEDI	25	Mcshea, M.A.	MEDI	363	Mejia Oneto, J.	MEDI	245
Mchugh, S.	BIOL	134	Mcskimming, A.	INOR	426	Mejuch, T.	BIOL	50
Mchugh, S.	ORGN	164	Md Noor, A.	AGFD	45	Mekala, S.	CHED	269
Mchugh, T.H.	AGFD	268	Mead, J.	PMSE	479	Melancon, M.P.	POLY	281
Mcindoe, E.	AGRO	74	Meador, M.	PMSE	676	Melchior, J.	POLY	572
Mcinerney, M.	ORGN	297	Meador, M.	PMSE	678	Meldrum, E.	BIOL	62
Mcinnes, C.	MEDI	179	Meador, M.A.	CHAS	13	Meldrum, T.K.	POLY	48
Mcintee, F.	PROF	38	Meador, M.A.	PMSE	306	Melendez, B.	AGFD	344
Mcintire, T.	PMSE	332	Meagher, R.L.	AGRO	178	Meleties, M.	POLY	318
Mcinturff, E.	ORGN	274	Meanwell, N.	MEDI	50	Melkonian, K.	CHED	201
Mcintyre, K.	CHAL	13	Meanwell, N.	MEDI	51	Melle, F.	COLL	50
Mcintyre, K.	CHAL	26	Meazza, M.	CATL	520	Mellerup, S.	INOR	323

Mellgren, E.M.	PROF	26	Merrick, M.F.	AGFD	326	Micheletti, R.	SCHB	4
Mellis, I.	BIOL	164	Merrifield, R.	COLL	24	Michelotti, J.	CHED	49
Mellors, J.S.	ORGN	487	Merrill, L.C.	ENFL	473	Michie, M.	PHYS	440
Melman, A.	CHED	180	Merrill, L.C.	PMSE	247	Michl, J.	PHYS	328
Melnick, A.	MEDI	351	Merritt, A.	MEDI	100	Michoulier, E.	PHYS	540
Melo, M.	COLL	568	Merritt, J.	CHED	211	Michurin, O.	MEDI	412
Melo-Filho, C.C.	CINF	24	Mersal, K.I.	MEDI	90	Mickles, D.T.	CHED	305
Melo-Filho, C.C.	CINF	143	Mershon, C.	PROF	4	Middlecamp, C.H.	CHED	389
Meloni, G.	INOR	608	Mertens, L.A.	COMP	462	Middlecamp, C.H.	NUCL	78
Meloni, S.	CHED	335	Mertzman, M.	MEDI	56	Midtgaard, S.	AGFD	158
Meloni, S.	PHYS	390	Merz, K.M.	COMP	448	Miecznikowski, J.R.	CHED	43
Meloni, S.	PHYS	477	Merz, K.M.	COMP	493	Miecznikowski, J.R.	CHED	240
Meloni, S.	PHYS	573	Merz, K.M.	CINF	57	Miecznikowski, J.R.	CHED	249
Melosh, N.A.	PHYS	396	Merz, L.S.	INOR	593	Miecznikowski, J.R.	INOR	399
Melot, B.C.	COLL	802	Merza, G.	POLY	376	Mielnicki, L.	MEDI	190
Meltzer, P.C.	MEDI	162	Merzliakov, M.	COLL	456	Mielnicki, L.	MEDI	424
Melvin, P.R.	INOR	291	Merzlyakov, M.	COLL	455	Mielnicki, L.	MEDI	453
Melvin, P.R.	ORGN	3	Mesa Antunez, P.	PMSE	621	Mientkiewicz, K.	ORGN	165
Memic, A.	POLY	15	Mesa Antunez, P.	POLY	393	Mieres-Perez, J.	ORGN	187
Mena Hernando, S.	ORGN	311	Mesadieu, R.	ORGN	447	Mieres-Perez, J.	ORGN	241
Mencer, D.E.	CARB	60	Mesaros, C.	TOXI	70	Mignerey, A.C.	NUCL	58
Mencer, D.E.	CARB	63	Mesaros, C.	TOXI	103	Mignolet, B.	ORGN	245
Mencer, D.E.	CHED	145	Meschwitz, S.M.	CHED	261	Mignolet, B.	ORGN	313
Menchi, G.	ORGN	203	Meschwitz, S.M.	CHED	262	Mignolet, B.	PHYS	89
Mendelsohn, L.	INOR	677	Mesecar, A.D.	MEDI	161	Mignolet, B.	PHYS	178
Menden-Deuer, S.	BIOL	99	Mesquita, N.C.	CINF	24	Mignolet, B.	PHYS	254
Mendenhall, J.	COLL	66	Messer, P.	AGRO	150	Mignolet, B.	PHYS	296
Mendes, P.	COLL	347	Messersmith, P.B.	PMSE	255	Mignolet, B.	PHYS	386
Mendes, R.	GEOC	3	Messineo, A.	ENVR	228	Migues, A.N.	CHED	64
Mendez, D.	CINF	80	Metangmo, A.	ANYL	156	Migues, A.N.	COMP	413
Mendez-Rojas, M.A.	CHED	288	Methot, J.L.	MEDI	342	Mihalic, J.	MEDI	322
Mendez-Rojas, M.A.	CHED	289	Metiu, H.	CATL	294	Mihaylov, D.	COMP	76
Mendieta, A.	ENVR	596	Metiu, H.	COMP	556	Mihigo, S.	CINF	27
Mendoza, A.	ORGN	308	Metlay, A.	POLY	493	Mijalis, A.J.	CARB	128
Mendoza Sanchez, R.	MEDI	1	Metz, P.	ORGN	461	Mijalis, A.J.	COMP	372
Menegatti, S.	POLY	68	Metz, R.B.	PHYS	506	Mikelis, C.	MEDI	165
Meng, B.	ENVR	207	Metzger, F.	MEDI	286	Mikhael, J.	BIOL	316
Meng, J.	ANYL	112	Meulenberg, R.W.	MPPG	41	Mikhailov, S.N.	MEDI	238
Meng, L.	ANYL	415	Meulendijks, N.	CATL	31	Miki, T.	MEDI	314
Meng, L.	CARB	18	Meunier, F.C.	CATL	464	Mikkelsen, M.	ENFL	500
Meng, P.	ENVR	46	Mew, D.	ANYL	241	Miknyoczki, S.J.	MEDI	358
Meng, S.	COLL	563	Meyer, J.	CATL	283	Mikola, M.R.	AGRO	130
Meng, S.	PHYS	168	Meyer, G.J.	INOR	358	Miksovska, J.	BIOL	66
Meng, S.	POLY	367	Meyer, G.J.	INOR	555	Miksovska, J.	BIOL	224
Meng, X.	ENFL	161	Meyer, G.J.	INOR	634	Miksovska, J.	BIOL	238
Meng, X.	ORGN	686	Meyer, G.J.	INOR	666	Mikulski, P.T.	COMP	268
Meng, X.	ENVR	132	Meyer, K.G.	AGRO	172	Milam, S.N.	PHYS	591
Meng, X.	ENVR	395	Meyer, K.G.	AGRO	212	Milan, J.C.	PMSE	46
Meng, X.	AGFD	153	Meyer, K.G.	ORGN	83	Milan, J.C.	PMSE	442
Meng, Y.	CATL	191	Meyer, K.G.	ORGN	464	Milani, N.	MEDI	263
Meng, Y.	ENFL	35	Meyer, L.	ENFL	501	Milazzo, N.	POLY	388
Meng, Y.	PHYS	190	Meyer, R.	INOR	41	Milburn, M.	CHAS	44
Menger, R.	AGRO	318	Meyer, S.	BIOL	26	Mileham, C.	POLY	437
Menges, S.	GEOC	10	Meyer, S.	ENVR	740	Miletto, I.	CATL	84
Menhaji-Klotz, E.	MEDI	151	Meyer, T.Y.	POLY	20	Milgram, B.	MEDI	277
Menis, S.	CARB	73	Meyer, T.	INOR	634	Milholen, D.	AGRO	45
Menke, T.	CINF	70	Meyers, A.	CATL	403	Militzer, B.	PHYS	550
Mennen, S.M.	ORGN	81	Meyers, C.L.	COLL	784	Miljanic, O.	ANYL	78
Menner, A.	PMSE	276	Meyers, D.	AGRO	381	Miljanic, O.	ORGN	140
Menner, A.	PMSE	673	Meyers, G.	COLL	801	Miljanic, O.	PMSE	510
Menner, A.	PMSE	696	Meyers, J.J.	INOR	518	Miljkovic, M.	ANYL	262
Menon, V.	PHYS	276	Meyers, M.J.	MEDI	103	Milkereit, J.	AGRO	279
Menon, V.	PHYS	277	Meyet, J.	CATL	421	Millan, M.	ENVR	228
Mensa-Wilmot, K.	CHED	257	Meymiel-Schicklin, L.	BIOL	62	Miller, A.J.	CHED	246
Mensa-Wilmot, K.	MEDI	310	Meza, I.	GEOC	67	Miller, A.J.	INOR	401
Mente, S.	MEDI	316	Mezei, G.	INOR	110	Miller, A.	BIOL	262
Mentreddy, S.R.	AGFD	103	Mi, J.	INOR	59	Miller, A.	POLY	502
Menzel, K.	MEDI	329	Mi, J.	MEDI	244	Miller, B.L.	BIOL	23
Menzel, M.	PMSE	181	Miao, G.	ENFL	192	Miller, B.	COLL	673
Menzer, W.	COMP	64	Miao, H.	MEDI	84	Miller, B.	CHED	7
Mera, E.	CHED	144	Miao, J.	BIOL	134	Miller, B.	GEOC	55
Mera, E.	CHED	176	Miao, J.	COMP	434	Miller, B.	COLL	435
Mercado, B.Q.	CHED	240	Miao, J.	INOR	202	Miller, D.	COLL	479
Mercado, B.Q.	ORGN	117	Miao, M.	PHYS	188	Miller, D.D.	ENFL	480
Mercado, B.Q.	ORGN	375	Miao, Y.	BIOL	14	Miller, E.B.	CHED	284
Mercado, R.	CHED	334	Miao, Y.	COMP	25	Miller, E.	CHED	156
Mercado, R.	ORGN	534	Miao, Y.	COMP	250	Miller, E.	PMSE	624
Mercer, J.	COLL	345	Miao, Y.	COMP	542	Miller, E.J.	AGRO	87
Mercken, M.	MEDI	124	Miao, Y.	PHYS	350	Miller, E.	BIOL	17
Mercurio, A.	ANYL	25	Miao, Z.	POLY	577	Miller, E.	MPPG	88
Mercurio, A.	BIOL	48	Micha, D.A.	COMP	121	Miller, H.	AGRO	318
Meredith, A.	AGFD	329	Michael, F.	MEDI	8	Miller, J.H.	CATL	442
Meredith, M.	AGRO	238	Michael, Q.	POLY	607	Miller, J.T.	CATL	229
Merga, G.	PHYS	408	Michaelides, A.	CATL	407	Miller, J.T.	CATL	405
Mergott, D.J.	MEDI	330	Michaelides, A.	COLL	147	Miller, J.	PMSE	477
Merhi, A.	CHED	51	Michaelides, A.	PHYS	554	Miller, J.	COLL	728
Merino, E.J.	TOXI	74	Michas, C.	PMSE	480	Miller, J.R.	ENFL	24
Merk, D.	CINF	25	Michaud, Z.	PMSE	47	Miller, K.M.	POLY	194
Merker, R.	AGFD	340	Michaudel, Q.	POLY	574	Miller, K.	PMSE	318
Merkle, S.	AGFD	14	Michaudel, Q.	WCC	7	Miller, L.	PMSE	445
Merkler, D.J.	AGRO	307	Michaut, X.	PHYS	133	Miller, M.D.	CHED	247
Merkley, E.	ANYL	484	Michel, B.W.	CHED	301	Miller, M.D.	INOR	679
Merkley, E.	ANYL	485	Michel, M.M.	GEOC	48	Miller, M.A.	ORGN	253

Miller, M.G.	AGFD	21	Minkara, M.S.	PROF	47	Miyake, G.	POLY	576
Miller, M.G.	AGFD	24	Minko, S.	COLL	471	Miyake, R.	COLL	595
Miller, M.J.	MEDI	327	Minko, S.	PMSE	391	Miyakoshi, A.	BIOL	39
Miller, M.	PMSE	372	Minnick, K.	MPPG	47	Miyamoto, N.	COLL	277
Miller, M.B.	CHED	296	Minnick, J.	INOR	351	Miyamoto, T.	POLY	181
Miller, M.L.	MEDI	363	Minns, R.	BIOL	110	Miyashita, N.	COMP	319
Miller, M.W.	MEDI	311	Minteer, S.D.	ANYL	350	Miyata, N.	MEDI	388
Miller, M.D.	BIOL	89	Minteer, S.D.	CATL	360	Miyata, T.	POLY	24
Miller, N.	MEDI	356	Minteer, S.D.	PMSE	174	Mizgier, N.	INOR	504
Miller, R.	MEDI	24	Minteer, S.D.	ANYL	404	Mizia, C.	CARB	68
Miller, R.J.	AGRO	149	Minter, F.	PROF	19	Mizrahi, V.	MEDI	117
Miller, S.A.	ORGN	617	Minter, L.M.	POLY	487	Mizuguchi, E.	MEDI	59
Miller, S.L.	ORGN	126	Minthorn, E.	MEDI	25	Mizuhara, T.	COLL	193
Miller, T.J.	INOR	389	Mintz, E.A.	PMSE	429	Mizuhara, T.	COLL	689
Miller, T.F.	COMP	13	Minus, M.	PMSE	498	Mizuno, M.	CARB	122
Miller, T.F.	PHYS	74	Minus, M.	PMSE	569	Mizuno, M.	ORGN	48
Miller, T.F.	PHYS	173	Minus, M.	PMSE	708	Mizuno, M.	MEDI	96
Miller, W.M.	CARB	62	Mirabello, V.	COLL	607	Mizutani, A.	MEDI	73
Milletti, M.	COMP	337	Miranda, J.P.	MEDI	157	Mlynarski, S.	MEDI	70
Milletti, M.	COMP	342	Miranda, R.	COLL	320	Mo, C.	ENVR	676
Millhouse, P.	ANYL	411	Miranda, R.	COLL	495	Mo, M.	ANYL	196
Milligan, C.	CATL	229	Miranda, R.	POLY	531	Mo, Y.	AGFD	175
Milligan, C.	INOR	76	Mirani, K.H.	INOR	61	Moad, G.	POLY	7
Milliron, D.J.	MPPG	17	Mirica, K.	ANYL	369	Moambi, B.	AGRO	308
Millner, P.	ENVR	736	Mirica, K.	PMSE	214	Moar, W.	AGRO	373
Mills, C.L.	COMP	361	Mirica, L.M.	INOR	299	Moate, T.F.	AGRO	189
Mills, C.L.	TOXI	59	Mirica, L.M.	MEDI	237	Mobarec, J.	MEDI	306
Mills, C.E.	PMSE	47	Mirkin, C.A.	ANYL	206	Moberg, D.R.	COMP	36
Mills, C.E.	PMSE	441	Mirkin, C.A.	COLL	125	Moberly, J.	CHED	412
Mills, G.C.	PHYS	514	Mirkin, C.A.	ENFL	186	Moberly, J.	GEOC	18
Mills, J.L.	BIOL	29	Mirkin, C.A.	INOR	74	Moberly, J.	INOR	639
Mills, J.L.	BIOL	86	Mirkin, C.A.	PMSE	667	Moberly, J.	INOR	703
Mills, N.J.	AGRO	183	Mirkin, C.A.	POLY	546	Mobley, D.L.	COMP	423
Millstone, J.	COLL	318	Miroshnikov, M.	ENVR	332	Mobley, J.K.	ENFL	364
Millstone, J.	COLL	675	Miroshnikov, M.	ENVR	338	Moccia, F.	ANYL	165
Millstone, J.	INOR	424	Mirsafavi, R.Y.	COLL	776	Mochida, Y.	COLL	141
Millstone, J.	MPPG	54	Mirsaidov, U.	COLL	88	Mochizuki, S.	COLL	205
Millstone, J.	PHYS	236	Mirsanaye, K.	ANYL	449	Mochizuki, S.	COLL	206
Milne, C.	PHYS	217	Mirzadegan, T.	CINF	151	Mochizuki, S.	COLL	396
Milne, P.	CHED	426	Mirzadeh, S.	NUCL	4	Mochizuki, T.	MEDI	72
Milne, P.	INOR	166	Mirzadeh, S.	NUCL	6	Mock, B.	ORGN	204
Milner, P.J.	ENFL	175	Mirzadeh, S.	NUCL	8	Moctar, K.	CHED	345
Milos, N.	POLY	34	Mirzadeh, S.	NUCL	9	Modestino, M.A.	CATL	387
Milsmann, C.	INOR	105	Mirzaei, H.	BIOL	251	Modi, M.	ENFL	295
Milsmann, C.	INOR	509	Misek, J.	ORGN	484	Modine, N.A.	ENFL	467
Milsmann, C.	INOR	635	Miserez, A.	PMSE	188	Módos, D.	MEDI	242
Milsmann, C.	INOR	754	Mishra, S.	CATL	255	Mody, V.V.	MEDI	427
Milstein, D.	INOR	377	Misiura, A.	ANYL	120	Moeckl, L.	ANYL	320
Miltchev, V.	ORGN	25	Misiura, A.	ANYL	220	Moehle, A.	PMSE	570
Milton, D.J.	CINF	75	Misra, M.	PMSE	579	Moehring, G.A.	CHED	253
Milton, J.	MEDI	445	Misra, R.	PHYS	530	Moehring, G.A.	INOR	514
Mimun, L.C.	COLL	269	Mistry, A.	ENVR	333	Moehring, S.A.	INOR	429
Mimun, L.	ENVR	598	Mistry, I.N.	MEDI	348	Moen, E.	MEDI	49
Mimy, M.	ORGN	452	Mitachi, K.	MEDI	390	Moerner, W.E.	ANYL	320
Min, K.	AGRO	239	Mitan, C.	CARB	84	Moester, M.	ENVR	712
Min, X.	ENVR	436	Mitch, W.	ENVR	348	Moewes, A.	COLL	660
Min, J.	BIOL	212	Mitchell, A.E.	AGFD	36	Moglianetti, M.	COLL	782
Min, J.	ENVR	634	Mitchell, A.E.	AGFD	297	Mogo, C.	PHYS	572
Min, K.	COMP	582	Mitchell, J.D.	POLY	367	Mohamadzade, A.	PHYS	384
Min, S.	ENVR	767	Mitchell, N.	AGRO	40	Mohamed, A.	INOR	462
Min, W.	ANYL	20	Mitchell, S.B.	CHED	108	Mohamed, A.	INOR	727
Min, W.	ANYL	359	Mitchell, Z.	PHYS	51	Mohamed, Z.	POLY	488
Min, W.	ANYL	448	Mito, S.	ORGN	463	Mohamed Ansar, M.	ANYL	167
Minakata, D.	ENVR	286	Mitov, M.	CELL	65	Mohammad, A.	ANYL	36
Minakata, D.	ENVR	352	Mitov, M.	CELL	71	Mohammad, H.	MEDI	25
Minakova, A.	ENVR	69	Mitra, M.	MEDI	311	Mohammadi, M.	COMP	341
Minamihata, K.	COLL	543	Mitra, N.	ORGN	403	Mohammadi, M.	COMP	364
Minamiyama, Y.	AGFD	73	Mitra, S.	COLL	436	Mohammadkhani, M.M.	POLY	467
Minard, C.	BIOL	298	Mitra, S.	MEDI	65	Mohammed, F.U.	ENVR	633
Minasian, S.	INOR	440	Mitragotri, S.	COLL	135	Mohammed, O.	PHYS	42
Minasian, S.G.	INOR	420	Mitri, R.	PHYS	521	Mohan, D.	ENVR	398
Minbiole, K.P.	ORGN	396	Mitroka, S.	CHED	428	Mohanam, L.	COMP	163
Mincarelli, D.	PROF	4	Mitsui, C.	POLY	362	Mohanty, S.K.	ENVR	105
Minderlean, S.	ENVR	196	Mitsutake, A.	COMP	252	Mohanty, S.K.	ENVR	377
Mine, Y.	AGFD	33	Mittal, A.	ENVR	448	Mohanty, S.K.	ENVR	430
Minehan, T.G.	ORGN	232	Mittal, H.	PMSE	534	Mohanty, U.	PHYS	441
Minehan, T.G.	ORGN	392	Mittal, S.	COMP	491	Mohapatra, P.P.	ORGN	448
Minehan, T.G.	ORGN	651	Mittapalli, R.	ORGN	105	Moharri, E.	COMP	309
Mineo, A.	PMSE	430	Mittelmark, E.	PMSE	446	Moharri, E.	INOR	408
Minerali, E.	ORGN	110	Mittermeier, V.	AGFD	273	Mohebfar, M.	COMP	27
Minero, C.	MPPG	29	Mitzi, D.B.	INOR	313	Mohen, J.C.	PHYS	489
Ming, W.	PMSE	731	Mitzner, R.	PHYS	58	Mohiuddin, M.	PMSE	239
Mingroni, M.	COLL	270	Miura, Y.	COLL	141	Mohler, C.E.	COLL	401
Minh, D.D.	COMP	64	Mix, L.T.	PHYS	375	Mohler, C.E.	COLL	479
Minh, D.D.	COMP	246	Miyagi, L.	PHYS	304	Mohler, C.E.	COLL	801
Minh, D.D.	COMP	408	Miyagi, Y.	POLY	85	Moholkar, V.	ENFL	448
Minh, D.D.	MEDI	440	Miyajima, Y.	ORGN	650	Moholkar, V.	PMSE	718
Minitti, M.P.	PHYS	9	Miyake, G.	CATL	310	Mohr, J.T.	ORGN	368
Minitti, M.P.	PHYS	11	Miyake, G.	INOR	128	Mohr, L.	ORGN	179
Minitti, M.P.	PHYS	336	Miyake, G.	INOR	257	Mohtarami, M.	CATL	309
Minitti, M.P.	PHYS	430	Miyake, G.	ORGN	28	Moir, L.	MEDI	289
Minkara, M.S.	COLL	715	Miyake, G.	ORGN	74	Mojica, E.E.	CHED	162
Minkara, M.S.	COMP	405	Miyake, G.	POLY	127	Mojica, E.E.	CHED	163

Mojica, E.E.	CHED	164	Moonshiram, D.	PHYS	525	Mori, K.	CATL	248
Mojica, E.E.	CHED	165	Moore, C.L.	BIOL	178	Mori, T.	COMP	19
Mok, E.	ENVR	628	Moore, C.L.	BIOL	236	Mori, T.	COMP	399
Mokhir, A.	BIOL	97	Moore, C.L.	BIOL	303	Moriarty, R.M.	CARB	84
Mokry, C.	INOR	238	Moore, C.	INOR	508	Morikami, K.	MEDI	59
Molander, G.A.	WCC	4	Moore, D.	AGRO	25	Morimoto, M.	POLY	416
Moldovan, A.	COLL	40	Moore, D.	AGRO	363	Morimoto, S.	MEDI	63
Moldovan, A.	COLL	243	Moore, E.	BIOL	61	Moringo, N.	ANYL	120
Moldovan, A.	MEDI	242	Moore, J.	MPPG	115	Moringo, N.	ANYL	220
Moldovan, G.	TOXI	47	Moore, J.	PMSE	175	Mori Quiroz, L.M.	ORGN	10
Molga, K.	CINF	39	Moore, J.	PMSE	630	Morishita, Y.	AGRO	346
Molinaro, C.	COLL	767	Moore, J.	POLY	434	Moritaka, A.	COLL	396
Molinero, V.	PHYS	398	Moore, J.S.	POLY	420	Morken, J.P.	ORGN	378
Mollahosseini, M.	COLL	669	Moore, K.	ORGN	548	Moroni, G.	CATL	466
Moller, J.	PMSE	270	Moore, K.B.	PHYS	228	Morosan, E.	INOR	139
Moller, M.	POLY	30	Moore, L.A.	PROF	6	Morosan, E.	INOR	440
Moloy, K.G.	INOR	286	Moore, N.	NUCL	31	Morose, G.	I&EC	32
Momeni, M.	CATL	391	Moore, P.	AGRO	182	Moroz, Y.	CINF	161
Momeni, M.	COMP	400	Moore, P.B.	COMP	37	Moroz, Y.	CINF	162
Momin, M.	COMP	546	Moore, P.B.	COMP	42	Moroz, Y.	COMP	95
Monari, A.	INOR	63	Moore, P.B.	COMP	257	Moroz, Y.	COMP	294
Monbouquette, H.G.	MPPG	67	Moore, R.B.	I&EC	36	Moroz, Y.	MEDI	376
Moncada, J.	CATL	417	Moore, R.B.	PMSE	678	Moroz, Y.	MEDI	412
Moncada, J.	ENFL	51	Moore, R.B.	POLY	535	Moroz, Y.	MEDI	413
Moncayo, C.	PMSE	25	Moore, S.	CINF	56	Moroz, Y.	MEDI	414
Moncayo, C.	PMSE	215	Moore, W.J.	MEDI	301	Moroz, Y.	MEDI	415
Mondal, D.	MEDI	97	Moore, W.J.	MEDI	302	Morozov, A.N.	INOR	430
Mondal, U.K.	COLL	708	Moore, W.J.	CATL	144	Morozov, D.	PHYS	375
Mondal, U.K.	MEDI	188	Moore, W.J.	CELL	15	Morozov, S.	COMP	291
Mondelli, C.	CATL	480	Moore, W.J.	CELL	424	Morrell, T.E.	CINF	109
Mondol, R.	INOR	111	Moore, W.J.	CELL	661	Morrell, D.	ORGN	442
Monguchi, Y.	ORGN	47	Moore, W.J.	ENVR	730	Morris, A.J.	CATL	88
Monguchi, Y.	ORGN	48	Moores, A.H.	ORGN	217	Morris, A.J.	ENFL	340
Monien, B.	AGFD	15	Moores, A.H.	ORGN	289	Morris, A.J.	INOR	10
Monier, S.	ANYL	487	Moores, A.H.	ORGN	279	Morris, A.J.	INOR	372
Monim-Ul-Mehboob, M.	INOR	549	Moores, L.	ENVR	485	Morris, A.J.	INOR	479
Monk, J.	PMSE	628	Moores, L.	TOXI	44	Morris, A.J.	INOR	660
Monk, S.A.	MEDI	330	Moos, M.	ORGN	587	Morris, A.J.	INOR	725
Monnier, J.R.	CATL	501	Moosavi, M.S.	COMP	541	Morris, A.J.	COMP	538
Monroe, E.B.	POLY	97	Moosavi, M.S.	ORGN	534	Morris, F.D.	ANYL	216
Monrose, N.	PROF	40	Moose, J.	BIOL	260	Morris, H.	COLL	648
Monsen, P.	ORGN	393	Moraca, F.	COMP	531	Morris, H.	AGRO	74
Montague, S.	COMP	111	Moradia, B.	AGRO	310	Morris, J.R.	INOR	372
Montague, S.	MEDI	17	Morak, M.	PMSE	772	Morris, J.R.	INOR	660
Montalbetti, C.	MEDI	10	Morales, A.	POLY	360	Morris, K.	INOR	179
Montanari, V.	ORGN	296	Morales, D.	ENFL	518	Morris, K.	GEOC	62
Montano, G.A.	POLY	187	Morales, H.	INOR	356	Morris, K.	POLY	529
Montarnal, D.	POLY	108	Morales, H.	PHYS	423	Morris, L.S.	PMSE	41
Montarnal, D.	POLY	109	Morales, H.	PHYS	423	Morris, M.A.	POLY	304
Montclare, J.K.	POLY	10	Morales, M.T.	CHED	310	Morris, M.A.	BIOL	190
Montclare, J.K.	POLY	318	Morales, M.J.	CHED	189	Morris, M.	BIOL	190
Monteil, V.	POLY	318	Morales, M.J.	CHED	191	Morris, R.	AGRO	316
Monteiro, V.	INOR	92	Morales, M.J.	CHED	332	Morris, R.H.	INOR	300
Monteiro, M.	CELL	41	Morales, P.	CHED	446	Morris, T.	CHED	418
Monteiro, M.	POLY	600	Morales, P.	MEDI	446	Morris, T.	CHED	418
Monteiro, O.	MEDI	266	Morales, V.M.	ENVR	666	Morris, W.	INOR	122
Monteleone, L.R.	BIOL	308	Morales-Narváez, E.	ANYL	223	Morrison, A.	PHYS	519
Montebault, A.	COLL	339	Morales-Rivera, C.A.	ORGN	553	Morrison, J.F.	ANYL	175
Montenegro, A.	COLL	802	Moran, J.	ANYL	244	Morrison, J.M.	PROF	20
Montero, J.R.	ORGN	125	Moran, K.	COLL	262	Morrison, J.	MEDI	265
Montero De Espinosa, L.	POLY	383	Moran, R.	AGFD	85	Morrison, R.W.	CHED	393
Montero De Espinosa, L.	POLY	396	Moran-Ramos, S.	ENVR	506	Morrow, B.	BIOL	96
Montes, F.J.	CELL	17	Morao, I.	MEDI	309	Morrow, B.H.	COMP	268
Montes, I.	CHED	7	Mora Sero, I.	PHYS	41	Morrow, J.R.	INOR	713
Montes, I.	CHED	7	Moravek, S.J.	PMSE	460	Morse, T.	ORGN	629
Montes, I.	WCC	27	More, K.	CATL	71	Morshed, M.M.	MEDI	1
Montesarchio, D.	ANYL	165	More, K.	ENFL	188	Mortensen, K.	COLL	405
Montesinos, M.	ORGN	308	More, K.	GEOC	37	Mortensen, K.	COLL	772
Montgomery, D.	MEDI	84	Moreau, R.	AGFD	243	Mortensen, S.	AGRO	20
Montgomery, D.	MEDI	290	Moreau, R.	AGFD	318	Mortensen, M.	COLL	455
Montgomery, J.	ORGN	505	Moreira, R.F.	ENVR	565	Mortenson, M.	COLL	456
Montgomery, M.	COLL	795	Morelly, D.T.	INOR	272	Mortillaro, N.	CHAS	43
Montgomery, T.P.	INOR	95	Morelly, S.L.	PMSE	478	Morton, C.	ORGN	26
Montgomery, W.S.	AGRO	175	Moremen, K.	CARB	93	Morton, G.C.	MEDI	65
Montier, T.	COLL	544	Moreno, B.	ENVR	745	Mor Yosef, R.	POLY	502
Montiero, J.	INOR	421	Moreno, I.	BIOL	87	Mosa, J.	PMSE	729
Montoto, E.C.	PMSE	175	Moreno, M.	CHED	330	Mosberg, H.I.	MEDI	290
Montoya, T.L.	ENFL	429	Moreno Yruela, C.	MEDI	384	Mosca, F.	PMSE	445
Monzon, A.	CATL	481	Morfesis, A.	COLL	402	Mosca, F.	PMSE	446
Monzon, F.	COLL	25	Morgan, B.P.	ORGN	277	Moseley, D.H.	INOR	360
Monzon, O.	ENVR	699	Morgan, B.P.	ORGN	278	Moshammer, R.	PHYS	207
Mooberry, S.	MEDI	98	Morgan, D.	CATL	25	Moshe, I.	POLY	502
Moody, M.A.	BIOL	102	Morgan, M.E.	CHED	240	Mosher, K.	AGFD	99
Moog, M.	PMSE	659	Morgan, M.	CHED	445	Mosher, M.D.	AGFD	100
Moon, A.P.	PHYS	335	Morgan, P.	CHED	445	Mos-Hummel, A.	ENVR	282
Moon, G.	ENFL	16	Morgan, S.E.	AGRO	248	Mosier, P.D.	MEDI	193
Moon, H.	ANYL	139	Morgan, T.	POLY	436	Mosiman, D.S.	ENVR	780
Moon, J.	POLY	176	Morgana, F.	ENFL	445	Moskal, J.R.	MEDI	276
Moon, J.	POLY	37	Morgia, F.	POLY	37	Moskal, J.R.	MEDI	276
Moon, J.	COLL	112	Mori, D.I.	POLY	149	Moskovits, M.	COLL	776
Moon, M.H.	BIOL	132	Mori, H.	POLY	540	Moskowitz, M.	POLY	571
Moon, N.G.	POLY	11	Mori, H.	POLY	540	Mosle, A.	CATL	317
Moon, S.	COLL	712	Mori, H.	COMP	251	Mosle, A.	CATL	495
Moon, Y.	COLL	211	Mori, H.	COMP	430	Mosquera, J.F.	CINF	80
Moon, Y.	BIOL	211	Mori, K.	MEDI	96	Mosquera Mosquera, J.	ANYL	210
Moon, Y.	PMSE	571	Mori, K.	MEDI	388	Mosquera Mosquera, J.	COLL	32
Mooney, D.J.	POLY	15	Mori, K.	ANYL	412			

Mosquin, P.	AGRO	331	Mügge, I.	COMP	315	Murillo, R.	BIOL	44
Mosquin, P.	AGRO	332	Muhammad Ajaz, A.	CELL	12	Murillo-Sanchez, M.L.	PHYS	15
Mosrin, M.	AGRO	208	Mühlbacher, I.	POLY	129	Murillo-Sanchez, M.L.	PHYS	257
Moss, F.R.	COLL	345	Muhr, V.	COLL	383	Murnane, M.M.	PHYS	197
Moss, M.	BIOL	61	Muir, D.	ENVR	83	Murnane, M.M.	PHYS	386
Moss, T.	ORGN	62	Mujid, F.	INOR	461	Murphy, A.	PMSE	372
Mostafanejad, M.	COMP	550	Mujid, F.	INOR	469	Murphy, C.J.	ANYL	172
Mostafavi, S.	ORGN	528	Mukamel, S.	PHYS	96	Murphy, C.J.	ANYL	212
Mostofian, B.	CELL	14	Mukamel, S.	PHYS	274	Murphy, C.J.	ANYL	392
Mosure, K.	MEDI	50	Mukarakate, C.	CATL	221	Murphy, C.J.	ANYL	393
Mosurkal, R.	PMSE	803	Mukarakate, C.	ENFL	176	Murphy, C.J.	ANYL	441
Moszynski, R.	PHYS	207	Mukarakate, C.	ENFL	299	Murphy, C.J.	COLL	108
Mota, A.A.	AGRO	75	Mukarakate, C.	ENFL	301	Murphy, C.J.	COLL	377
Mota, J.	COLL	663	Mukazhanova, A.	COMP	51	Murphy, C.J.	COLL	631
Motealleh, B.	INOR	308	Mukazhanova, A.	COMP	130	Murphy, C.J.	INOR	208
Motealleh, B.	PMSE	433	Mukerjee, S.	CATL	197	Murphy, C.J.	MPPG	98
Motealleh, B.	PMSE	780	Mukerjee, S.	ENFL	435	Murphy, C.J.	MPPG	116
Moth-Poulsen, K.	ORGN	680	Mukherjee, K.	ANYL	47	Murphy, C.J.	TOXI	90
Motomura, K.	PHYS	217	Mukherjee, K.	BIOL	33	Murphy, C.J.	TOXI	92
Motsinger-Reif, A.	COMP	74	Mukherjee, K.	ORGN	387	Murphy, C.	ENVR	87
Mott, B.	MEDI	302	Mukherjee, M.	ENVR	257	Murphy, K.	NUCL	8
Motta, A.J.	MEDI	128	Mukherjee, N.	PHYS	31	Murphy, K.C.	CHED	410
Mottillo, C.	INOR	249	Mukherjee, P.	ORGN	4	Murphy, K.C.	CHED	427
Mottillo, C.	ORGN	430	Mukherjee, P.	ORGN	5	Murphy, K.C.	CHED	428
Mottin, M.	CINF	24	Mukherjee, P.P.	ENVR	333	Murphy, M.	PHYS	478
Motto, I.	MEDI	365	Mukherjee, P.	AGFD	169	Murphy, N.	CARB	6
Mou, T.	INOR	12	Mukherjee, R.	PMSE	253	Murphy, R.	ANYL	392
Mouchlis, V.	COMP	143	Mukherjee, S.	ORGN	533	Murphy, R.	COMP	295
Mouchlis, V.	COMP	571	Mukherjee, R.	COLL	637	Murphy, S.E.	TOXI	52
Mouchlis, V.	MEDI	248	Mukhopadhyay, A.	ENFL	94	Murphy, Z.	CARB	67
Mougenot, P.	MEDI	368	Mukhopadhyay, S.	ORGN	37	Murphy, Z.	MEDI	350
Moulder, C.	COMP	350	Mukhopadhyay, S.	PMSE	737	Murray, A.T.	CATL	213
Mounfield, W.	ENFL	115	Mukhtar, A.	ENFL	550	Murray, A.T.	ENVR	440
Mounfield, W.P.	ENFL	3	Mukundan, R.	ENFL	558	Murray, C.B.	COLL	217
Mounier, L.	MEDI	10	Mulakken, N.J.	ANYL	491	Murray, C.B.	COLL	674
Moura, N.	INOR	51	Mulcahy, S.P.	CHED	302	Murray, C.B.	ENFL	332
Moura-Letts, G.	ORGN	624	Mulchandani, A.	CHED	36	Murray, C.B.	INOR	330
Moura-Letts, G.	ORGN	626	Mulchandani, A.	CHED	120	Murray, C.B.	INOR	417
Moura-Letts, G.	ORGN	627	Mulchandani, A.	ENVR	487	Murray, C.B.	INOR	719
Moura-Letts, G.	ORGN	628	Mulé, M.	CHED	113	Murray, J.K.	CHED	54
Mousseau, J.	MEDI	77	Mulfort, K.L.	PHYS	161	Murray, J.K.	CHED	66
Mousseau, J.	ORGN	290	Mülhaupt, R.	POLY	398	Murray, J.K.	CHED	94
Moustakas, H.	POLY	474	Mulheran, P.	PMSE	281	Murray, J.	AGRO	159
Moustakim, M.	MEDI	266	Mullen, R.	AGRO	299	Murray, J.	MEDI	325
Mout, R.	COLL	270	Muller, A.	POLY	334	Murray, L.P.	ANYL	11
Movassaghi, M.	ORGN	252	Muller, E.	ORGN	124	Murray, M.	INOR	772
Moxley, J.W.	COLL	215	Muller, U.	CHED	306	Murray-Simmons, D.	INOR	408
Moxley, J.W.	COLL	258	Müller, C.	PHYS	207	Murrell, V.	AGRO	249
Moy, P.	POLY	456	Müller, K.	COMP	308	Murtazalieva, K.	MEDI	401
Mozaffari, S.	MEDI	249	Müller, S.	CATL	156	Murthy, N.	COLL	571
Mozhdehi, D.	PMSE	168	Muller-Greven, J.	COMP	147	Murugesan, S.	ENFL	307
Mozzer, A.	CHED	261	Mulligan, C.C.	ANYL	557	Murugesan, V.	ENFL	471
Mpourmpakis, G.	CATL	86	Mullin, A.S.	PHYS	92	Murumkar, P.R.	MEDI	126
Mpourmpakis, G.	COLL	43	Mullin, A.S.	PHYS	313	Murumkar, P.R.	MEDI	156
Mpourmpakis, G.	COLL	494	Mullins, D.R.	CATL	178	Musavigharavi, P.	ENFL	27
Mroccka, E.	PHYS	464	Mullins, M.	PMSE	619	Musetti, S.	MEDI	292
Mroczkowski, B.	MEDI	297	Müllner, M.	POLY	278	Mushnoori, S.	BIOL	286
M Roozbahani, G.	ANYL	263	Mulvaney, P.	PMSE	284	Mushnoori, S.	COMP	41
M Roozbahani, G.	I&EC	35	Mulvaney, S.P.	PMSE	558	Mushnoori, S.	COMP	376
Mroueh, M.	CHED	51	Mulzer, C.R.	INOR	283	Mushnoori, S.	COMP	426
Mu, A.	INOR	129	Mun, B.	ORGN	642	Musli, V.	CHED	220
Mu, A.	INOR	381	Mun, B.	COLL	530	Mussa, Y.	ENFL	551
Mu, L.	ENFL	197	Munasinghe, A.	PMSE	426	Mussa, Y.	PMSE	782
Mu, X.	PMSE	591	Mundy, C.J.	GEOC	45	Mustafa, F.	ANYL	282
Mu, Y.	CATL	103	Muniswamy, M.	COLL	708	Mustafa, M.	ENVR	599
Mu, Y.	CATL	272	Muniz, B.	MEDI	357	Mustafa, M.	ENVR	651
Mu, Y.	PMSE	569	Muniz, G.	ORGN	557	Mustafa, M.	ENVR	657
Mu, Z.	COLL	724	Munoz, K.	ENVR	182	Mustain, W.E.	INOR	305
Mucha, E.	CARB	16	Munoz, G.	ENVR	731	Musumeci, D.	ANYL	165
Mucha, E.	CARB	82	Munoz, S.	CHED	42	Mutai, P.	CINF	26
Muchero, W.	ENVR	277	Munoz, S.	CHED	271	Mutasher, S.H.	BIOL	54
Mucke, M.	PHYS	217	Munoz, S.	CHED	272	Muth, A.	MEDI	182
Muckerman, J.T.	CATL	130	Munoz, S.B.	ORGN	9	Muth, A.	MEDI	183
Mudalige, T.	ANYL	167	Munoz, S.B.	ORGN	611	Mutinda, S.I.	COLL	356
Mueanngern, Y.	CATL	116	Munoz, S.	ENFL	517	Mutowo, P.	CINF	80
Mueanngern, Y.	CATL	247	Muñoz, F.	CHED	223	Muttaqien, S.	PMSE	790
Muehlbacher, I.	CATL	315	Munro, C.J.	COLL	180	Muuronen, M.	BIOL	126
Muellen, K.	INOR	142	Munshi, R.	COLL	702	Muy, S.	CATL	99
Mueller, A.M.	INOR	53	Murabayashi, Y.	AGFD	130	Muzny, C.	CINF	65
Mueller, A.M.	INOR	67	Muraca, F.	BIOL	317	Muzzio, M.	CHED	283
Mueller, B.	INOR	450	Muraca, F.	COLL	768	Muzzio, M.	CHED	404
Mueller, D.	CATL	67	Murail, S.	COMP	68	Myers, A.	INOR	230
Mueller, M.	PMSE	627	Murakami, A.	AGFD	7	Myers, H.N.	CHED	11
Mueller, P.	INOR	176	Murakami, S.	AGFD	10	Myers, S.	AGRO	319
Mueller, P.	INOR	686	Murata, Y.	MEDI	59	Myerson, A.S.	COLL	81
Mueller, P.	INOR	704	Muratov, E.	CINF	24	Myerson, A.S.	COLL	508
Mueller, T.C.	AGRO	270	Muratov, E.	CINF	143	Mykhailiuk, P.	MEDI	376
Mueller, T.	ORGN	17	Murayama, H.	CHED	178	Mykhailiuk, P.	MEDI	377
Muench, L.	NUCL	10	Murcia, S.	MEDI	231	Mykhailiuk, P.	MEDI	412
Mufarreh, A.	MEDI	381	Murdakes, N.	PMSE	556	Mykhailiuk, P.	MEDI	413
Mufutau, O.I.	ENVR	654	Murdakes, N.	PMSE	643	Mykhailiuk, P.	MEDI	414
Muganda, W.C.	ENVR	362	Murdakes, N.	PMSE	719	Mykhailiuk, P.	MEDI	416
Mugele, F.	CATL	435	Murenzi, E.	AGRO	306	Mykhailiuk, P.	MEDI	417

Mylonakis, E.	MEDI	136	Nakamura, C.	ANYL	425	Natarajan, U.	COLL	168
Myracle, A.	AGFD	85	Nakamura, D.	AGFD	329	Natarajan, U.	COLL	756
Mysinger, M.	CINF	127	Nakamura, I.	POLY	295	Natesakhawat, S.	CATL	256
Mysinger, M.	CINF	128	Nakamura, S.	MEDI	314	Nath, A.	ORGN	11
Mysinger, M.	CINF	129	Nakamura, T.	INOR	366	Nath, J.	POLY	579
Myung, J.	ENVR	172	Nakamura, Y.	AGFD	32	Nathan, C.F.	MEDI	116
Molck, C.	MEDI	155	Nakanishi, I.	MEDI	96	Nathan, S.R.	INOR	541
Na, C.G.	ORGN	331	Nakanishi, T.	POLY	457	Nathaniel, M.C.	INOR	502
Na, H.	ORGN	37	Nakano, M.	MEDI	330	Nathanson, D.A.	MEDI	212
Naas, K.	AGRO	299	Nakashima, H.	COLL	642	Natsume, M.	AGFD	10
Naas, T.	COMP	569	Nakatake, D.	ORGN	239	Naumov, A.	COLL	452
Nabavinia, M.	CATL	81	Nakatani, A.I.	COLL	801	Nauta, K.	PHYS	191
Nabavinia, M.	CATL	205	Nakatani, N.	COMP	16	Navaei, M.	CATL	96
Nabel, M.	CHED	101	Nakatsuka, N.	ANYL	201	Navaratne, P.V.	ORGN	337
Nachtegaal, M.	CATL	68	Nakatsuka, N.	ANYL	426	Navarro, A.E.	ENVR	425
Nachtegaal, M.	CATL	461	Nakatsuka, N.	MPPG	67	Navarro, A.E.	ENVR	745
Naciri, J.	PHYS	392	Nakatsuka, N.	MPPG	70	Navarro, M.	CHED	260
Nadagouda, M.	ENVR	480	Nakaura, H.	POLY	24	Navarro, M.	MEDI	33
Nadar, V.S.	TOXI	27	Nakayama, N.	INOR	164	Navarro, M.	MEDI	34
Nadeau, J.	MPPG	104	Nakhjiri, M.	BIOL	298	Navarro, M.	MEDI	36
Naden Robinson, V.	PHYS	555	Nakka, P.	I&E	31	Navarro, M.	MEDI	38
Naderi, N.	ENVR	245	Naldiga, S.	TOXI	47	Navarro, M.	MEDI	335
Nadgouda, S.G.	ENFL	457	Nallapaneni, A.	PMSE	259	Nave, F.	PROF	41
Nadolny, F.	CATL	55	Nalley, E.A.	PROF	22	Nave, F.M.	PROF	3
Naeem, A.	CHED	253	Nally, M.E.	INOR	754	Navotnaya, P.	PHYS	46
Naftaly, J.A.	BIOL	232	Nam, E.	CHED	137	Navotnaya, P.	PHYS	562
Nag, A.	BIOL	196	Nam, H.	CATL	439	Navratilova, J.	ENVR	355
Nagao, S.	MEDI	73	Nam, H.	INOR	311	Navrotsky, A.	ORGN	435
Nagapudi, K.	ORGN	436	Nam, K.	COMP	412	Navuluri, C.	ORGN	343
Nagarajan, M.B.	ANYL	203	Nam, K.	ENVR	778	Nawar, S.	POLY	26
Nagarajan, M.B.	ANYL	205	Nam, P.K.	ANYL	465	Nawrat, C.C.	ORGN	523
Nagarajan, R.	COLL	14	Nam, S.	ENVR	353	Nayak, B.	AGFD	138
Nagarajan, R.	COLL	478	Nam, S.	AGFD	171	Nayak, B.	AGFD	231
Nagarajan, R.	COLL	628	Namane, C.	MEDI	368	Nayakasinghe, M.T.	COMP	283
Nagarajan, R.	COLL	800	Namdarghanbari, M.	BIOL	283	Naylor, C.	MEDI	206
Nagarajan, R.	PMSE	803	Nanattuchirayil Vijayan, A.	ANYL	93	Nayyab, S.	CARB	35
Nagarajan, R.	POLY	452	Nanda, J.	PMSE	113	Nazarenko, O.	INOR	328
Nagarajan, R.	POLY	560	Nanda, J.	POLY	542	Nazarenko, S.I.	PMSE	638
Nagarajan, R.	POLY	605	Nanda, S.	CELL	6	Nazaretski, E.	MPPG	39
Nagasaka, H.	ENFL	236	Nanda, V.	COMP	41	Nazarian, A.	BIOL	287
Nagasaka, S.	ANYL	500	Nanda, V.	COMP	426	Nazarian, A.	PMSE	424
Nagasawa, K.	ANYL	425	Nandedkar, N.	ORGN	297	Nazarian, A.	POLY	419
Nagata, Y.	PMSE	130	Nandula, V.	AGRO	336	Nazemi, A.	INOR	36
Nagelberg, S.	COLL	73	Nandy, A.	COMP	338	Nazir, Z.	COLL	21
Nagib, D.A.	ORGN	287	Nandy, A.	COMP	347	Ndahayo, V.	CHED	302
Nagpal, R.	AGFD	316	Nandy, A.	COMP	495	Ndaya, D.	COLL	411
Naguib, M.	ANYL	298	Nangia, S.	BIOL	260	Ndaya, D.	PMSE	471
Nagulapalli Venkata, K.C.	MEDI	153	Nangia, S.	COMP	108	Ndaya, D.	PMSE	530
Nagy, E.	ORGN	652	Nangia, S.	COMP	142	Ndaya, D.	POLY	423
Nagy, M.A.	ORGN	547	Nangle, S.N.	INOR	250	Nde, D.	ANYL	155
Nagy, Z.	COMSCI	9	Nangreave, R.C.	CHED	175	Ndengue, S.A.	PHYS	176
Nagyhazi, M.	ORGN	655	Naous, G.	CHED	51	Ndengue, S.A.	PHYS	295
Nahid, M.	PMSE	661	Naowarojna, N.	ENFL	489	Ndoj, J.	MEDI	84
Nahide, P.	ORGN	115	Narang, P.	MPPG	61	Ndou, T.	AGFD	126
Nahide, P.	ORGN	506	Narang, V.	CHED	287	Ndugire, W.	COLL	183
Nahon, L.	ORGN	268	Narang, V.	ENFL	296	Ndung'U, M.	AGRO	213
Nahon, L.	PHYS	83	Narasimhan, J.	MEDI	286	Neal, L.	ENFL	101
Nahum, T.	PMSE	797	Narayan, A.R.	CATL	161	Nealey, P.F.	PMSE	579
Naidu, R.	AGRO	163	Narayan, A.R.	ORGN	381	Neary, M.	COLL	621
Naidu, R.	AGRO	166	Narayan, A.R.	ORGN	382	Neary, W.J.	PMSE	216
Naidu, R.	AGRO	312	Narayan, A.R.	ORGN	383	Neaton, J.	PHYS	213
Naik, D.	CHED	253	Narayan, A.R.	BIOL	280	Nebel, L.M.	GEOC	10
Naik, P.	ENFL	362	Narayan, A.R.	ORGN	384	Nebgen, B.T.	COMP	177
Naill, M.	BMGT	2	Narayan, B.	COMP	508	Nebgen, B.T.	COMP	179
Nair, A.	AGFD	45	Narayan, S.	MEDI	403	Neckam, B.	COMP	155
Nair, D.P.	PMSE	295	Narayanan, B.	ENFL	203	Neckers, L.M.	MEDI	302
Nair, R.N.	ANYL	138	Narayanan, G.	POLY	213	Neely, S.	CHED	350
Nair, S.K.	ORGN	160	Narayanan, J.	ANYL	408	Nefedov, A.	COLL	730
Nair, S.	POLY	517	Nargund, R.P.	MEDI	367	Neff, D.	COLL	204
Nairat, M.	PHYS	318	Narouei, F.H.	ANYL	40	Negahbani, A.	BIOL	298
Nairat, M.	PHYS	440	Narsaria, A.	COMP	290	Negri, A.	COMP	531
Nairat, M.	PHYS	446	Narsaria, A.	ORGN	243	Negri, A.	ANYL	373
Nairat, M.	PHYS	464	Narumi, T.	ORGN	152	Negrito, M.	ENFL	316
Naito, M.	PMSE	757	Narumi, T.	ORGN	154	Negro, E.	CATL	316
Najafian, A.	INOR	232	Narumi, T.	COLL	587	Negron Silva, G.	CARB	69
Najarro, F.	PHYS	195	Narvaez, T.	AGRO	175	Nehme, R.	COLL	99
Najer, A.	PMSE	625	Naryshkin, N.A.	MEDI	286	Neimark, A.V.	COLL	753
Najjar, D.	TOXI	78	Nash, C.	CATL	165	Neimark, A.V.	COLL	753
Najjar, J.	BIOL	182	Nash, C.	CATL	167	Neithalath, N.	GEOC	40
Najjar, J.	INOR	185	Nash, E.	CHED	121	Neitz, J.	MEDI	299
Najmr, S.	INOR	330	Nash, E.	CHED	122	Neitzel, A.	POLY	367
Nakabayashi, K.	ANYL	204	Nash, K.	ENVR	450	Nekimken, A.	COLL	384
Nakabayashi, K.	POLY	540	Nasilowski, M.	PHYS	271	Nelkenbrecher, K.	MEDI	333
Nakada, G.	ANYL	163	Nasipireddy, V.R.	MEDI	155	Nellis, W.J.	PHYS	586
Nakada, G.	ANYL	164	Nasir, A.	ENVR	28	Nelson, B.	PMSE	631
Nakafuku, K.M.	ORGN	287	Nasiri Avanski, K.	PHYS	443	Nelson, B.	CHED	67
Nakagawa, H.	MEDI	388	Nason, D.	PHYS	433	Nelson, C.	BIOL	3
Nakagawa, K.	ORGN	394	Nason, W.	MEDI	316	Nelson, C.	COLL	479
Nakagawara, T.A.	INOR	472	Nasrallah, D.J.	INOR	138	Nelson, C.	COLL	157
Nakagawara, T.A.	INOR	585	Nasrallah, D.J.	ORGN	284	Nelson, J.	MEDI	162
Nakahira, S.	PMSE	261	Nasrallah, D.J.	ORGN	285	Nelson, J.	ORGN	333
Nakajima, K.	CATL	345	Nasreen, Z.	AGFD	251	Nelson, J.	ENFL	436
Nakamura, A.	MEDI	337	Nassar, N.	ENFL	429	Nelson, J.	GEOC	33
			Nassar, O.	MEDI	228	Nelson, K.	ENVR	177
			Nasser, S.	COLL	184	Nelson, K.	ENVR	230

Nelson, K.A.	PHYS	128	Nguyen, B.	CARB	46	Nicklaus, M.C.	CINF	160
Nelson, K.	ANYL	184	Nguyen, B.	ENVR	807	Nicklaus, M.C.	CINF	167
Nelson, M.	MEDI	425	Nguyen, B.	AGRO	302	Nicklaus, M.C.	COMP	151
Nelson, M.	MEDI	426	Nguyen, C.	ENVR	777	Nickless, B.	AGFD	103
Nelson, M.J.	PMSE	512	Nguyen, D.	CINF	121	Nickless, B.	AGFD	285
Nelson, N.	COLL	641	Nguyen, D.T.	COLL	726	Nickson, K.	PHYS	474
Nelson, N.C.	CATL	469	Nguyen, D.	ENVR	309	Nicoales, G.	MEDI	100
Nelson, T.	COLL	745	Nguyen, D.N.	CARB	59	Nicolai, E.	MEDI	368
Nelson, T.L.	INOR	388	Nguyen, E.T.	INOR	741	Nicolay, A.	INOR	622
Nemmaru, B.	CARB	89	Nguyen, F.	COLL	468	Nicolay, R.	POLY	113
Nemsak, S.	CATL	67	Nguyen, H.M.	CARB	109	Nicole, B.M.	INOR	502
Nemsak, S.	CATL	181	Nguyen, H.M.	CARB	119	Nicole, L.	POLY	155
Neo, M.	PMSE	567	Nguyen, H.M.	ORGN	27	Nicole, L.	POLY	206
Neochoritis, C.	ORGN	200	Nguyen, H.M.	ORGN	310	Nicolosi, V.	ENFL	109
Neoh, B.	AGFD	45	Nguyen, H.	COMP	51	Nicolosi, V.	INOR	539
Neoh, K.	COLL	572	Nguyen, H.V.	POLY	34	Nicotera, E.	PHYS	501
Neoh, K.	COLL	780	Nguyen, H.V.	POLY	87	Nie, G.	CARB	18
Nepal, D.	CELL	63	Nguyen, H.V.	POLY	231	Nie, G.	ENFL	361
Nepal, D.	PMSE	270	Nguyen, H.	AGRO	87	Nie, S.	COLL	378
Neri, A.	ORGN	209	Nguyen, H.	INOR	508	Nie, S.	COLL	457
Nery, M.	AGFD	252	Nguyen, K.T.	COLL	268	Nie, S.	INOR	59
Nesbitt, D.J.	PHYS	132	Nguyen, K.T.	CINF	127	Nie, S.	MEDI	244
Nessl, A.E.	COLL	802	Nguyen, K.T.	CINF	128	Nie, T.	COMP	178
Nesterenko, P.	ENVR	183	Nguyen, L.	AGRO	302	Niece, B.K.	AGFD	84
Nesterenko, P.	PMSE	144	Nguyen, L.	MEDI	282	Niedermeyer, J.F.	PHYS	192
Nesterkina, M.	MEDI	402	Nguyen, L.	CATL	16	Niedre, M.	ANYL	322
Netchev, A.	ENVR	598	Nguyen, L.	CATL	123	Nieh, M.	ORGN	685
Neto, C.C.	AGFD	123	Nguyen, L.	AGRO	226	Nielsch, K.	MPPG	38
Netsu, M.	ORGN	48	Nguyen, M.T.	COLL	443	Nielsen, A.	MEDI	220
Netzband, D.	AGRO	227	Nguyen, M.	ENFL	498	Nielsen, A.E.	BIOL	6
Neugebauer, M.	BIOL	152	Nguyen, M.	CATL	386	Nielsen, C.	PMSE	325
Neuhauser, D.	COMP	35	Nguyen, M.	CATL	469	Nielsen, J.	MEDI	217
Neuhauser, D.	COMP	171	Nguyen, M.	I&EC	27	Nielsen, J.	ORGN	560
Neuhauser, D.	PHYS	306	Nguyen, M.	ORGN	676	Nielsen, M.	INOR	298
Neumann, A.	ENVR	261	Nguyen, M.T.	ORGN	422	Nielsen, M.	INOR	682
Neumann, A.	ENVR	415	Nguyen, M.T.	ORGN	509	Nielsen, M.	PHYS	111
Neumann, A.	ENVR	416	Nguyen, N.	COMP	476	Nielsen, M.	PHYS	217
Neumann, A.	GEOC	66	Nguyen, P.	ORGN	513	Nielsen, R.J.	INOR	668
Neumann, C.	NUCL	51	Nguyen, P.	PMSE	819	Nielsen, R.J.	INOR	683
Neumann, S.	COLL	503	Nguyen, Q.L.	PHYS	197	Nielsen, R.J.	INOR	689
Neumark, D.M.	PHYS	13	Nguyen, Q.	POLY	256	Nienaber, H.	INOR	288
Neumark, D.M.	PHYS	524	Nguyen, S.T.	CATL	91	Niessen, S.	MEDI	27
Neumeyer, J.L.	MEDI	74	Nguyen, S.T.	COLL	547	Niesz, K.	ORGN	576
Neumeyer, J.L.	MEDI	119	Nguyen, S.T.	ORGN	514	Nieto, A.	CHED	347
Neurock, M.	CATL	53	Nguyen, S.T.	PMSE	3	Nieto Arguello, A.	COLL	311
Neurock, M.	CATL	225	Nguyen, S.T.	POLY	169	Nieto-Pescador, J.	PHYS	490
Neurock, M.	CATL	422	Nguyen, T.	PMSE	55	Nigsch, F.	CINF	159
Neve, P.	AGRO	69	Nguyen, T.	PMSE	109	Nihe, N.	ENVR	733
Neves, B.J.	CINF	24	Nguyen, T.	AGRO	198	Niizuma, S.	MEDI	73
Neville, S.E.	INOR	234	Nguyen, T.	AGRO	203	Nijssen, M.	MEDI	318
Newberg, J.T.	COLL	35	Nguyen, T.	ANYL	274	Nikas, S.	MEDI	60
Newberry, K.	MEDI	50	Nguyen, T.H.	ENVR	746	Nikas, S.	MEDI	61
Newcomb, B.	POLY	468	Nguyen, T.	CELL	69	Nikas, S.	MEDI	87
Newcomb, L.B.	PHYS	180	Nguyen, T.	COMP	176	Nikiforov, A.	COLL	278
Newcombe, G.	BIOL	53	Nguyen, T.	COMP	180	Nikitidis, G.	ORGN	207
Newhouse, T.R.	WCC	1	Nguyen, T.	COMP	346	Nikitina, A.	CINF	165
Newman, A.H.	MEDI	139	Nguyen, T.	COLL	524	Nikitina, A.	MEDI	238
Newman, D.	CHED	397	Nguyen, T.	ENVR	14	Nikolaev, A.	ORGN	15
Newman, M.	INOR	210	Nguyen, T.	MEDI	70	Nikova, A.T.	COLL	407
Newman, S.	ENVR	485	Nguyen, T.	PMSE	249	Nilaweera, T.D.	BIOL	177
Newman, S.	ORGN	266	Nguyen, T.D.	PMSE	245	Nilaweera, T.D.	MEDI	223
Newman, S.	ORGN	371	Nguyen, T.	MEDI	440	Niles, S.	MEDI	428
Newmister, S.	ORGN	252	Nguyen, T.H.	BIOL	91	Niles, S.F.	ENVR	88
Newmister, S.	ORGN	505	Nguyen, T.H.	BIOL	92	Nilewski, L.G.	COLL	389
Newton, A.	MEDI	233	Nguyen, T.	COLL	216	Nilsen, A.L.	POLY	345
Newton, A.	MEDI	50	Nguyen, T.	COLL	467	Nilsson, E.	ENFL	534
Newton, M.	CATL	7	Nguyen, V.	MPPG	27	Nilsson, F.	PMSE	706
Newton, M.	CATL	68	Nguyen, V.	ENVR	173	Nimir, H.I.	INOR	487
Newton, M.	CATL	421	Nguyen, V.	ENVR	233	Nimlos, M.R.	CATL	221
Newton, S.	AGRO	29	Nguyen Phan, T.	CATL	256	Nimlos, M.R.	COMP	98
Newton, S.	ENVR	43	Ni, C.K.	CARB	85	Nimlos, M.R.	ENFL	176
Neybert, A.E.	PROF	50	Ni, S.	CATL	192	Nimlos, M.R.	ENFL	301
Neyerling, A.	ENFL	319	Ni, Y.	ENFL	331	Nimlos, M.R.	ENFL	484
Neyts, E.	PHYS	230	Nian, Y.	ENFL	455	Nimmareddy, R.	MEDI	65
Ng, A.	PHYS	75	Nibbering, E.	PHYS	14	Nimmrich, A.	PHYS	327
Ng, A.	CELL	63	Nibbering, E.	PHYS	324	Nims, M.K.	ANYL	244
Ng, C.	PHYS	368	Nicewicz, D.A.	ORGN	72	Nimsgern, P.	MEDI	20
Ng, J.	CHED	426	Nicholas, A.D.	INOR	460	Ning, F.	AGFD	190
Ng, K.	ORGN	651	Nicholas, A.D.	INOR	759	Ning, J.	AGFD	64
Ng, K.	ANYL	105	Nicholas, A.D.	INOR	757	Ning, X.	COLL	56
Ng, K.	ANYL	179	Nicholas, C.P.	HIST	24	Ning, X.	COLL	777
Ng, R.	BIOL	200	Nicholas, J.	PHYS	303	Ninkovic, D.	COMP	473
Ng, T.	AGFD	45	Nichols, B.L.	CELL	30	Ninkovic, S.	MEDI	282
Ngaboyamahina, E.	ENFL	500	Nichols, J.	CHED	427	Niño, M.A.	COLL	320
Nganga, J.	INOR	169	Nichols, J.W.	ANYL	409	Niño De Guzmán, G.	ENVR	736
Ngernyuang, N.	COLL	695	Nichols, R.J.	ENVR	529	Nippe, M.	INOR	224
Ngo, B.K.	POLY	119	Nichols, R.L.	ENVR	706	Nippe, M.	INOR	239
Ngo, H.	AGFD	243	Nichols, S.	CHED	256	Nippe, M.	INOR	431
Ngo, H.	AGFD	318	Nicholson, S.	PHYS	77	Nipuni, T.K.	ANYL	158
Ngo, T.	PHYS	41	Nicholson, S.	PHYS	180	Nirmalchandar, A.	ORGN	613
Ngoauana-Wakou, B.F.	GEOC	23	Nickels, C.W.	INOR	249	Niroobakhsh, Z.	COLL	588
Ngu, L.	COMP	351	Nickels, M.	COLL	459	Nishikida, K.	ANYL	197
Nguyen, A.T.	COMP	25	Nicki, M.	INOR	412	Nishimoto, M.	MEDI	73
Nguyen, B.N.	PMSE	678	Nickias, P.	CATL	22	Nishimura, N.	MEDI	322

Nishimura, T.	ENVR	733	Norris, D.	MEDI	265	O'Carroll, D.	ENVR	361
Nishimura, Y.	MEDI	73	Norris, E.	AGRO	311	O'Connell, N.	MEDI	19
Nishimura, Y.	CARB	21	Norris, E.J.	AGRO	126	O'Connell, N.	MEDI	70
Nishio, M.	ANYL	425	Norris, E.J.	AGRO	358	O'Conner, C.	CATL	176
Nishioka, T.	MEDI	72	Norris, B.	PROF	4	O'Connor, B.	PMSE	193
Nishitani, S.	ANYL	42	Norris, S.C.	COLL	487	O'Connor, D.H.	MEDI	122
Nishitsujii, S.	PMSE	693	Norris, S.C.	PMSE	771	O'Connor, N.	CHED	441
Nishiyama, N.	COLL	141	Norris-Drouin, J.L.	MEDI	54	O'Connor, N.	INOR	632
Nishiyama, N.	COLL	533	Norris-Drouin, J.L.	MEDI	292	O'Connor, N.	PMSE	515
Nishiyama, N.	PMSE	790	Norsworthy, J.K.	AGRO	324	O'Connor, N.J.	BIOL	279
Nishiyama, N.	ORGN	526	North, S.W.	PHYS	470	O'Connor, P.	INOR	696
Nissen, S.	AGRO	104	North, S.W.	PHYS	538	O'Connor, R.T.	COLL	338
Nissley, D.	COMP	241	Nortier, F.M.	NUCL	2	O'Dell, J.R.	COLL	616
Nitica, S.	COLL	243	Norton, A.E.	INOR	312	O'Dell, J.Z.	ANYL	96
Nitka, T.T.	COLL	252	Norton, A.E.	INOR	536	O'Dell, Z.J.	ANYL	523
Nitsche, C.I.	PRES	2	Norton, A.E.	PROF	46	O'Doherty, G.	ORGN	673
Nitschke, J.	ORGN	427	Norton, D.	MEDI	256	O'Doherty, G.A.	COMP	351
Nitschke, J.	ORGN	515	Norton, J.R.	INOR	279	O'Doherty, G.A.	ORGN	103
Niu, H.	MEDI	97	Norton, M.L.	COLL	204	O'Doherty, G.A.	ORGN	457
Niu, J.	PMSE	334	Norwine, E.	INOR	234	O'Doherty, G.A.	ORGN	476
Niu, J.	POLY	218	Nosek, B.	CINF	87	O'Donnell, M.J.	CHED	130
Niu, J.	POLY	458	Nosek, V.	ORGN	484	O'Donovan, K.	BIOL	86
Niu, J.	ENFL	257	Noshadi, I.	CATL	81	O'Flynn, B.	AGRO	307
Niu, J.	ENVR	109	Noshadi, I.	CATL	205	O'Handley, S.F.	BIOL	86
Niu, J.	ENVR	674	Noshadi, I.	PMSE	111	O'Handley, S.F.	BIOL	87
Niu, L.	CATL	25	Noskov, S.	COMP	67	O'Hara, P.B.	CHED	111
Niu, Q.	ENVR	459	Nothnagel, T.	AGRO	110	O'Harra, K.E.	POLY	193
Niu, Y.	ENFL	53	Novak, J.	ANYL	39	O'Loughlin, E.	POLY	98
Niu, Y.	ANYL	147	Novakovic, S.	PHYS	516	O'Malley, A.	CATL	112
Niu, Z.	I&EC	48	Novendra, N.	ORGN	435	O'Malley, A.	CATL	114
Niugush, J.	ENVR	98	Novikov, V.	MEDI	402	O'Meara, M.	COMP	71
Niwayama, S.	ORGN	612	Novo, D.	COLL	230	O'Neal, M.	AGRO	293
Njomen, E.	BIOL	217	Novoa-Carballal, R.	CARB	113	O'Neal, R.	PHYS	134
Nkwazema, C.	CHED	143	Novotny, M.	CATL	326	O'Neal, S.	AGRO	151
Nnoruka, C.	CHED	307	Nowack, L.	ORGN	390	O'Neal, S.	AGRO	184
Noble, J.	ORGN	411	Nowak, G.	COLL	214	O'Neil, J.J.	CHED	376
Noble, R.D.	PMSE	5	Nowak, K.	AGRO	161	O'Neil, M.	BIOL	29
Noble, R.D.	POLY	149	Nowalk, J.A.	POLY	20	O'Neil, N.J.	CHED	238
Nocera, D.	BIOL	285	Nowick, J.S.	BIOL	190	O'Neil, N.J.	YCC	19
Nocera, D.G.	ENFL	215	Nowick, J.S.	BIOL	293	O'Neil-Johnson, M.	ORGN	649
Nocera, D.G.	ENFL	250	Nowicka, E.	CATL	25	O'Neill, H.M.	CELL	9
Nocera, D.G.	INOR	101	Nowotka, M.	CINF	80	O'Neill, H.M.	CELL	10
Nocera, D.G.	INOR	114	Nozik, A.J.	ENFL	214	O'Neill, H.M.	CELL	13
Nocera, D.G.	INOR	250	Nsanzimana, J.	ENFL	509	O'Neill, J.	AGRO	114
Nogales, E.	COMP	59	Nshimiyimana, R.	MEDI	407	O'Neill, J.	AGRO	252
Nogueira, E.	COLL	430	Nshimiyimana, R.	MEDI	408	O'Neill, M.	COLL	305
Nogueira, E.	COLL	570	Nsubuga, A.	INOR	416	O'Reilly, M.C.	BIOL	299
Nogueira E Silva, R.	ANYL	171	Ntie-Kang, F.	CINF	3	O'Shea, K.E.	ENVR	112
Noh, H.	AGRO	325	Ntie-Kang, F.	CINF	27	O'Shea, K.E.	ENVR	577
Noh, H.	AGRO	326	Nuckolls, C.P.	ENFL	391	O'Sullivan, K.	COLL	604
Noh, H.	AGRO	327	Nuckolls, C.P.	PMSE	232	Oakes, T.	AGRO	189
Noh, H.	AGRO	328	Nugen, S.R.	AGFD	170	Oaki, Y.	ANYL	163
Noh, H.	CATL	87	Nugen, S.R.	AGFD	289	Oaki, Y.	ANYL	164
Nolan, D.	INOR	606	Nugen, S.R.	AGFD	292	Oanta, A.K.	INOR	445
Nolan, E.M.	INOR	390	Nugen, S.R.	ENVR	116	Oates, T.W.	ENVR	123
Nolan, E.M.	INOR	769	Nugent, B.M.	AGRO	172	Oatley, S.	COMP	137
Nolis, G.	INOR	413	Numata, K.	CELL	49	Obadia, M.	POLY	108
Nomoto, T.	COLL	533	Numata, K.	POLY	85	Obadia, M.	POLY	246
Nomoto, T.	PMSE	790	Numata, K.	POLY	86	Obaid, G.	COLL	51
Nomura, K.	PMSE	153	Numata, K.	POLY	181	Obaleye, J.A.	INOR	513
Nomura, K.	MEDI	59	Numata, T.	BIOL	132	Obaleye, J.A.	INOR	642
Nomura, Y.	ENVR	481	Nunes, S.	PMSE	346	Obama, Y.	PMSE	572
Nonato, M.C.	INOR	394	Nunez, S.	CHED	170	Obare, S.O.	ENVR	720
Nonnglaton, M.	ENVR	151	Nunez, M.	CHED	173	Obare, S.O.	WCC	28
Nonnenmacher, K.	ENVR	282	Nunez, M.	CHED	178	Obata, R.	BIOL	106
Nonnenmann, S.	COLL	483	Nunez, M.	CHED	184	Obata, S.	INOR	164
Noonan, K.J.	PMSE	330	Nunez, M.	COLL	528	Ober, C.K.	PMSE	181
Noor, M.M.	CELL	55	Nunez, O.	ORGN	392	Ober, C.K.	PMSE	415
Noor, M.M.	CELL	56	Nurani, A.	MEDI	119	Ober, C.K.	PMSE	466
Noorai, R.	AGRO	105	Nussinov, R.	CARB	75	Ober, C.K.	PMSE	570
Noort, D.	ANYL	242	Nutiu, R.	COMP	188	Ober, C.K.	PMSE	579
Norden, A.	AGRO	190	Nuzzo, R.G.	CATL	15	Ober, C.K.	PMSE	647
Nordlander, P.J.	MPPG	56	Nwaichi, E.O.	AGFD	176	Ober, C.K.	PMSE	806
Nordlander, P.J.	PHYS	238	Nyamakeye, C.	ANYL	269	Ober, C.K.	POLY	179
Nordlund, D.	ENFL	197	Nyenhuis, D.A.	BIOL	177	Ober, C.K.	YCC	6
Nordlund, D.	MPPG	17	Nyenhuis, S.B.	BIOL	177	Oberg, C.	PHYS	492
Nordqvist, A.	ORGN	207	Nyhlen, H.	ANYL	418	Oberg, K.	PHYS	370
Norell, J.	PHYS	108	Nyman, M.D.	INOR	197	Oberg, K.	PHYS	593
Norell, J.	PHYS	159	Nyovanie, S.T.	CHED	264	Oberholzer, M.	AGRO	98
Norelus, A.	PRES	22	Nys, D.	ENVR	488	Oberlies, N.H.	COLL	778
Norenberg, J.P.	MEDI	302	Nysten, B.	COLL	123	Obermeyer, A.	POLY	17
Norheim, R.V.	ANYL	514	Nziko, V.N.	CELL	1	Obermeyer, A.	POLY	290
Noriega, R.	PHYS	99	Nziko, V.N.	POLY	572	Oburn, S.M.	COLL	326
Norinder, U.	TOXI	61	O'Boyle, N.	CINF	11	Ochiai, A.	GEOC	54
Norkus, E.	ENFL	219	O'Boyle, N.	CINF	77	Ochiai, A.	NUCL	41
Norkus, E.	ENFL	528	O'Boyle, N.M.	CINF	35	Ochieng, M.	PMSE	29
Norlin, R.	ANYL	239	O'Boyle, N.M.	CINF	170	Ochmann, M.	PHYS	8
Norman, A.I.	PMSE	203	O'Brien, A.M.	CHED	248	Ochmann, M.	PHYS	14
Norman, N.	MEDI	432	O'Brien, C.	CATL	19	Ochoa, C.	ORGN	142
Normandin, M.D.	MPPG	69	O'Brien, E.	COMP	241	Ochoa, M.A.	COMP	118
Norrbj, P.	ORGN	307	O'Brien, E.S.	POLY	41	Ochoa, M.A.	INOR	587
Norrbj, P.	ORGN	477	O'Brien, G.	AGFD	123	Ochs, A.M.	INOR	272
Norris, A.	CELL	30	O'Brien Johnson, G.	ENVR	376	Ocko, B.	PMSE	528
Norris, C.	ENVR	369	O'Carroll, D.	ENVR	360	O Conchuir, B.	COLL	592

O Connor, J.M.	INOR	290	Oki, S.	POLY	457	Ondrechen, M.	COMP	351
O Connor, J.M.	INOR	296	Okochi, M.	INOR	576	Ondrechen, M.	COMP	361
O Connor, J.M.	INOR	590	Okorafor, U.	MEDI	213	Ondry, J.C.	PHYS	221
O Connor, J.M.	MEDI	406	Okuma, K.	PMSE	508	Ong, J.	INOR	423
Oda, M.	AGRO	346	Okumura, M.	ORGN	52	Ong, W.	PMSE	164
Ode, P.	AGRO	318	Okur, H.	COLL	153	Onigman, P.	ANYL	417
Odeh, I.	PMSE	18	Olaechea, L.M.	POLY	383	Onigman, P.	ANYL	418
Odelius, K.	CELL	40	Olafuyi, O.	CHED	225	Onishi, N.	CATL	130
Odelius, K.	PMSE	644	Olafuyi, O.	CHED	225	Onishi, N.	COMP	319
Odelius, M.	PHYS	14	Olaluwoye, O.	COLL	293	Onkokesung, N.	AGRO	71
Odelius, M.	PHYS	108	Olarte, M.V.	ENFL	177	Onnis-Hayden, A.	ENVR	619
Odelius, M.	PHYS	159	Olaware, N.O.	AGFD	93	Ono, R.	POLY	57
Odelius, M.	PHYS	280	Oldacre, A.N.	INOR	237	Ono, Y.	MEDI	59
Odero, C.	INOR	238	Oldenhuis, N.J.	POLY	133	Onuchic, J.N.	COMP	316
Odoh, S.O.	COMP	523	Oldenkamp, H.	PMSE	372	Onuska, N.P.	ORGN	72
Odom, A.R.	MEDI	103	Oldham, C.J.	INOR	116	Oomens, J.	NUCL	53
Odom, T.W.	COLL	126	Olds, M.	AGRO	340	Oono, K.	COMP	305
Odom, T.W.	INOR	266	Oldt, C.	CARB	60	Opatz, T.	ORGN	458
Odom, T.W.	MPPG	51	Olejniczak, E.T.	MEDI	301	Ophardt, H.	MEDI	204
Odom, T.W.	MPPG	60	Oleske, K.	POLY	625	Opipari, A.	MEDI	4
Odom, T.W.	MPPG	95	Olguin, M.	PHYS	117	Oppong, A.A.	ORGN	122
Oehme, D.	CELL	4	Olhava, E.J.	MEDI	4	Oppong, A.A.	ORGN	468
Oehme, D.	COMP	254	Olichwier, A.B.	INOR	154	Oppong, A.A.	ORGN	582
Öeren, M.	CINF	124	Oliva, G.	CINF	24	Oprea, T.I.	CINF	115
Oertell, K.M.	BIOL	298	Oliva, H.	CATL	485	Oprea, T.I.	CINF	116
Oezaslan, M.	COLL	503	Oliveres Corichi, I.	COLL	231	Oprea, T.I.	CINF	140
Ofoegbuna, T.	INOR	630	Oliveira, A.	ENVR	601	Oprea, T.I.	COMP	150
Oganov, A.	PHYS	189	Oliveira, M.	POLY	329	Oprych, D.P.	PMSE	593
Ogawa, A.	ORGN	54	Olivercrona, M.	COMP	99	Orayech, B.	ENFL	463
Ogawa, K.	AGRO	133	Olivia, X.C.	INOR	675	Ordaz-Pichardo, C.	MEDI	169
Ogawa, K.	MEDI	73	Olivier, M.	PMSE	618	Ordovas, J.	AGFD	312
Ogbuagu, P.O.	ENFL	444	Olivucci, M.	ORGN	242	Oreffo, R.	PMSE	582
Ogbuagu, S.A.	MEDI	35	Olijnyk, A.	PMSE	307	Oreilly, R.K.	PMSE	103
Ogle, E.	CHED	337	Oller Do Nascimento, C.A.	ENVR	572	Oreilly, R.K.	PMSE	123
Oglic, D.	COMP	137	Olley, P.A.	POLY	100	Oreilly, R.K.	POLY	122
Ogoshi, R.M.	ENFL	445	Olmstead, A.	AGRO	188	Oreilly, R.K.	POLY	562
Ogungbesan, G.	ENFL	55	Oloyede, G.K.	BIOL	55	Orella, M.	I&E	19
Ogunjinmi, O.E.	AGFD	93	Olsen, B.D.	ENFL	34	Orellana, A.	ORGN	15
Ogunjinmi, O.E.	AGFD	336	Olsen, B.D.	PMSE	47	Oreski, G.	POLY	277
Ogunro, V.	ENVR	641	Olsen, B.D.	PMSE	225	Orf, G.S.	PHYS	51
Ogunseitán, O.A.	ENVR	443	Olsen, B.D.	PMSE	237	Orfield, N.J.	COLL	372
Oh, C.H.	MEDI	90	Olsen, B.D.	PMSE	439	Organ, M.G.	ORGN	33
Oh, E.	COLL	441	Olsen, B.D.	PMSE	441	Organ, M.G.	ORGN	264
Oh, E.	COLL	704	Olsen, B.D.	PMSE	452	Organ, M.G.	ORGN	344
Oh, J.	ORGN	375	Olsen, B.D.	PMSE	491	Organ, M.G.	ORGN	345
Oh, J.	COLL	525	Olsen, B.D.	PMSE	560	Organtini, K.	ENVR	185
Oh, J.	ANYL	439	Olsen, B.D.	PMSE	624	Orizu, I.	CARB	23
Oh, N.	COLL	442	Olsen, B.D.	PMSE	820	Orizu, I.	ORGN	385
Oh, S.	ENVR	609	Olsen, B.C.	POLY	511	Orlando, F.	COLL	155
Oh, S.	COLL	530	Olsen, C.A.	MEDI	209	Orlando, J.	POLY	447
Oh, S.	POLY	331	Olsen, C.A.	MEDI	220	Orlicki, J.A.	POLY	262
Oh, T.	ENFL	51	Olsen, C.A.	MEDI	384	Orlicki, J.A.	POLY	503
Ohannesian, N.	INOR	528	Olsen, C.A.	ORGN	292	Orlov, A.	CATL	253
Ohara, T.	BIOL	302	Olsen, C.A.	ORGN	363	Orlov, A.	CINF	165
Ohashi, Y.	MEDI	72	Olsen, J.	BIOL	130	Orlov, A.	MEDI	238
Ohigashi, H.	AGFD	10	Olsen, K.	MEDI	445	Orna, M.	HIST	27
Ohiri, K.A.	COLL	488	Olsen, P.	INOR	621	Ornelas, C.	PMSE	46
Ohland, C.	AGFD	315	Olsen, P.	MEDI	406	Ornelas, C.	PMSE	335
Ohmae, M.	CARB	22	Olsen, S.	MEDI	322	Ornelas, C.	PMSE	442
Ohmura, J.	ENFL	513	Olson, E.	PMSE	318	Ornelas, M.A.	MEDI	282
Ohmura, S.	PHYS	319	Olson, P.	MEDI	144	Ornelas, M.	BIOL	209
Ohno, A.	MEDI	388	Olson, R.A.	POLY	332	Orozco, G.	ORGN	463
Ohno, T.	GEOC	30	Olson, T.L.	ORGN	590	Orozco, Y.	ORGN	242
Ohnuki, F.	PMSE	461	Olsson, R.	PMSE	706	Orr, A.	COMP	191
Ohnuki, T.	GEOC	54	Olsson, V.J.	PMSE	48	Orr, R.	MEDI	311
Ohnuki, T.	NUCL	41	Olugbenga, G.	CATL	330	Orr, T.	AGRO	271
Ohodnicki, P.	PHYS	393	Olujinmi, J.O.	CATL	330	Ortiz-Vitoriano, N.	ENFL	463
Ohoueu, M.	MEDI	134	Oluwaseye, O.	ENVR	417	Orsini, P.	MEDI	362
Ohshima, T.	ORGN	239	Oluwaseye, O.	ENVR	420	Orski, S.V.	POLY	216
Ohshima, T.	BIOL	39	Olvera De La Cruz, M.	PMSE	245	Ortega, D.	CATL	483
Ohta, R.	ORGN	332	Olvera De La Cruz, M.	PMSE	249	Ortega-Carrasco, E.	AGRO	352
Ohta, S.	COLL	49	Olvera De La Cruz, M.	PMSE	608	Ortego, L.	AGRO	20
Ohta, S.	PMSE	758	Olvera-Garcia, F.J.	ANYL	103	Orth, N.	INOR	234
Ohtake, Y.	MEDI	59	Olvera-Treviño, M.	CHED	212	Ortin, Y.	COLL	604
Ohtomo, S.	MEDI	59	Omarjee, S.	BIOL	304	Ortiz-Acosta, D.	PMSE	656
Ohtsuka, Y.	ENVR	630	Omary, M.	INOR	473	Ortiz Medina, J.	ENVR	323
Ojadi, E.C.	MEDI	81	Omary, M.A.	INOR	759	Ortiz Medina, J.	ENVR	700
Ojeda, M.	ENVR	207	Omeir, M.	PMSE	511	Ortiz-Santiago, J.E.	BIOL	77
Ojima, I.	MEDI	130	Omenetto, F.	ANYL	272	Ortlund, E.	BIOL	167
Ojima, I.	MEDI	175	Omenetto, F.	PMSE	726	Ortoleva, P.	COLL	77
Oka, T.	PHYS	321	Omichinski, J.G.	INOR	767	Ortoleva, P.	COLL	333
Oka, Y.	COLL	274	Omichinski, J.G.	TOXI	28	Ortony, J.	COLL	322
Okada, M.	GEOC	17	Omidvar, M.	PMSE	212	Ortony, J.	COLL	593
Okafor, C.D.	BIOL	167	Omor, K.	COLL	275	Ortuno, M.A.	CATL	486
Okahashi, T.	AGFD	217	Ona Ruales, J.O.	TOXI	35	Ortwine, D.F.	MEDI	278
Okajima, S.M.	BIOL	287	Onel, N.	COMP	280	Orvosh, B.	COLL	550
Okamoto, I.	ORGN	564	Onder, O.	PMSE	277	Orzolek, B.J.	CARB	2
Okamoto, I.	ORGN	574	Ondrechen, M.	TOXI	71	Osada, K.	COLL	141
Okamoto, N.	MEDI	59	Ondrechen, M.J.	COMP	356	Osada, K.	PMSE	757
Okamuro, J.	ENVR	276	Ondrechen, M.J.	COMP	369	Osakabe, N.	AGFD	8
Okasinski, J.	ENFL	406	Ondrechen, M.J.	COMP	375	Osakabe, N.	AGFD	82
Okazawa, H.	POLY	303	Ondrechen, M.J.	COMP	381	Osakabe, N.	AGFD	83
Okeh, O.	CHED	225	Ondrechen, M.J.	COMP	393	Osawa, K.	ORGN	109
Oki, H.	MEDI	63	Ondrechen, M.J.	TOXI	59	Osawa, K.	ORGN	354

Osborn, J.M.	NUCL	21	Ow, H.	ENFL	426	Pagsuyoio, S.	ENVR	517
Osborn, W.A.	COLL	797	Owada, S.	PHYS	217	Pagsuyoio, S.	ENVR	560
Osborne, J.	AGFD	129	Owczarczyk, Z.R.	ENFL	317	Pagsuyoio, S.	ENVR	753
Oscar, P.S.	CHED	195	Owczarczyk, Z.R.	ENFL	319	Pai, N.	AGRO	271
Oschmann, M.	ORGN	184	Owczarczyk, Z.R.	PMSE	23	Pai, Y.	PMSE	620
Oses, C.	PHYS	307	Owen, A.	COLL	621	Paier, J.A.	CATL	455
Osgood, R.M.	ANYL	222	Owen, A.	COLL	784	Paik, H.	CATL	4
Oshima, A.	COLL	642	Owen, A.	POLY	280	Paik, H.	ENFL	436
Oshita, S.	ENVR	818	Owen, D.	MEDI	319	Paik, H.	COLL	228
Osipov, M.	CELL	59	Owen, J.S.	INOR	586	Paik, H.	PMSE	425
Osipov, V.	ENFL	4	Owen, M.D.	AGRO	102	Paik, H.	POLY	311
Osipov, V.	ENFL	249	Owens, D.	AGRO	175	Paik, T.	COLL	217
Osipov, V.	ENFL	290	Owens, E.	POLY	83	Paik, T.	COLL	674
Oslob, J.	MEDI	258	Owens, E.	ANYL	499	Paik, T.	INOR	330
Oslovsky, V.	MEDI	238	Owhoudue, E.R.	ENVR	633	Paine, M.J.	AGRO	35
Osmulski, P.A.	BIOL	217	Owings, T.	CHED	422	Paink, G.	PMSE	797
Osolodkin, D.I.	CINF	165	Owrutsky, J.	PHYS	381	Paithankar, D.	SCHB	15
Osolodkin, D.I.	MEDI	238	Owrutsky, J.	PHYS	397	Pajek, M.	PHYS	217
Osorio Roa, C.	AGFD	287	Oxley, K.	AGRO	180	Pak, C.	INOR	15
Osorno, L.L.	COLL	792	Oyang, C.	MEDI	281	Pak, K.	PMSE	402
Ospina, C.M.	CHED	321	Oyler, B.L.	ENFL	534	Paketuryte, V.	MEDI	383
Öbwald, P.	PHYS	574	Oyler, N.A.	PHYS	452	Pal, R.	MEDI	357
Osta, E.G.	COLL	706	Oyala-Reynoso, S.	PHYS	425	Pal, R.	COMP	339
Osterberg, M.K.	CELL	32	Oyala-Reynoso, S.	POLY	116	Pal, S.	COLL	694
Osterberg, M.K.	CELL	35	Ozaki-Masuzawa, Y.	AGFD	31	Pal, S.	INOR	373
Osterholm, A.	PMSE	29	Ozarowski, A.	INOR	642	Pal, S.	INOR	526
Osterholm, A.	PMSE	105	Ozarowski, A.	INOR	653	Pal, S.	PHYS	389
Osterholm, A.	PMSE	403	Ozawa, Y.	ORGN	608	Pal, S.	PMSE	767
Osterloh, F.E.	INOR	556	Ozcubucu, S.	BIOL	168	Pal, S.	MEDI	208
Ostermeyer, U.	AGFD	14	Ozel, T.	ENFL	250	Pal, S.	MEDI	271
Ostman, R.	CHED	30	Özeren, H.	PMSE	706	Palacio, D.C.	ENVR	300
Ostraat, M.	ENFL	493	Ozerov, M.	INOR	360	Palacio, F.	INOR	540
Ostrander, E.A.	AGFD	319	Ozerov, O.	INOR	96	Palagin, D.	CATL	421
Ostrov, N.	ENVR	273	Ozerov, O.	INOR	346	Palani, A.	MEDI	367
Ostrowski, A.	INOR	536	Ozerov, O.	INOR	446	Palantavida, S.	COLL	787
Ostrowski, A.	PROF	46	Ozerov, O.	INOR	448	Palen, B.A.	INOR	155
Osuji, C.O.	ENVR	159	Ozerov, O.	INOR	597	Palen, B.A.	INOR	156
Osuji, C.O.	ENVR	216	Ozгур, U.	COLL	681	Palen, B.A.	INOR	647
Osuji, C.O.	POLY	240	Ozgur, U.	INOR	472	Palencia, H.	ORGN	305
Osullivan, B.	CHED	191	Ozgur, U.	INOR	585	Palermo, E.	PMSE	79
Osullivan, B.	CHED	192	Ozkan, U.S.	ENFL	116	Palermo, G.	COMP	265
Osullivan, G.	AGRO	263	Ozkan, U.S.	ENFL	381	Palermo, G.	COMP	543
Osuna, S.	CATL	157	Ozkaya Ahmadov, T.	BIOL	88	Paliakkara, J.	CHED	179
Osward, V.	INOR	234	Ozkizicik, A.	PMSE	637	Paliakkara, J.	CINF	171
Ota, R.	ANYL	126	Ozturk, B.	INOR	99	Paliwal, S.	MEDI	65
Otaka, A.	PMSE	567	Ozturk, R.	INOR	304	Pall, A.	COLL	184
Otake, K.	CATL	87	Öztürk, P.	ORGN	196	Pallaoro, A.	COLL	692
Othman, A.	AGFD	174	Öztürk, P.	ORGN	426	Pallaoro, A.	COLL	776
Othman, A.	ANYL	282	O'Connell, S.	MEDI	370	Pallmann, J.	INOR	14
Otmankhel, Y.	MEDI	182	O'Donnell, K.	AGFD	285	Palm, D.	PMSE	590
Otog, N.	ORGN	101	O'Donnell, T.E.	AGFD	111	Palma, J.L.	COMP	535
Otsuka, C.	POLY	413	Opaesch, S.	INOR	14	Palmer, C.	CATL	294
Otsuka, H.	POLY	76	Pabodha, D.	AGRO	242	Palmer, G.	PMSE	626
Otsuka, H.	POLY	416	Pace, J.R.	ORGN	157	Palmer, S.M.	CHED	24
Otsuka, H.	POLY	417	Pace, T.	ANYL	411	Palmer, T.	CHAL	19
Otsuka, I.	POLY	23	Pachanski, M.	MEDI	311	Palmer, W.P.	HIST	7
Otsuka, M.	ORGN	135	Pacheco, A.	PMSE	551	Palmer Emerson, H.P.	ENVR	465
Ott, L.	CHED	25	Pacheco, R.	AGFD	128	Palmer Emerson, H.P.	I&EC	34
Ott, M.	TOXI	40	Packa, V.	AGRO	108	Palmer Emerson, H.P.	NUCL	34
Ottaway, J.	ANYL	293	Padda, A.	ENVR	35	Palmer Emerson, H.P.	NUCL	46
Otte, K.	MEDI	24	Padera, R.F.	COLL	701	Palmer Emerson, H.P.	NUCL	71
Otten, B.A.	INOR	759	Padera, R.F.	COLL	778	Palmese, G.R.	POLY	207
Otten, E.	INOR	111	Padilla, E.	ENVR	666	Palmese, G.R.	CELL	44
Ottersböck, B.	POLY	277	Padilla, L.	AGRO	76	Palmieri, A.	INOR	305
Otto, J.	PHYS	46	Padilla, L.	AGRO	79	Palmieri, T.	PHYS	102
Otto, J.	PHYS	407	Padilla, L.	AGRO	236	Palomino, L.	COLL	196
Otto, J.	PHYS	410	Padilla, L.	AGRO	317	Palomino, L.	COLL	235
Ou, M.	ENFL	233	Padilla, R.M.	INOR	682	Paloni, J.M.	PMSE	491
Ou, M.	ENVR	765	Padilla-Cortes, L.	BIOL	44	Paloni, J.M.	PMSE	624
Ou, Q.	COMP	84	Padmanabha, R.	MEDI	56	Palte, M.J.	MEDI	122
Ou, S.	AGFD	253	Padmaperuma, A.	CATL	166	Palumbo, C.	BIOL	43
Ou, T.	ENVR	813	Padmaperuma, A.B.	CATL	9	Palumbo, C.	BIOL	308
Ou, Y.	CATL	283	Padmaperuma, A.B.	ENFL	177	Palumbo, L.	CINF	108
Ou, Y.	COLL	459	Padua, G.	AGFD	157	Palumbo, M.	PHYS	102
Quari, O.	INOR	127	Padyana, A.	MEDI	253	Palyulin, V.	CINF	165
Queslati, S.	COMP	569	Paeng, K.	POLY	336	Palyulin, V.	MEDI	238
Quhbi, H.	COMP	564	Paesani, F.	COMP	36	Pamies, O.	ORGN	307
Quaiaes, Z.	CELL	67	Paesani, F.	COMP	180	Pamies, O.	ORGN	477
Quoha, U.	CHED	143	Paesani, F.	COMP	346	Pan, A.C.	COMP	148
Qupicky, D.	COLL	538	Paesani, F.	PHYS	281	Pan, B.	ENVR	264
Quyang, C.	ENFL	490	Paesani, F.	PHYS	352	Pan, B.	ENVR	400
Quyang, L.	PMSE	238	Pagaduan, J.	COLL	612	Pan, B.	ENVR	412
Quyang, T.	COLL	446	Pagan, A.	ORGN	447	Pan, B.	ENVR	830
Quyang, Y.	ENFL	232	Pagano, J.J.	ENVR	87	Pan, C.	ENFL	208
Qvadia, E.	POLY	502	Pagano, J.J.	ENVR	727	Pan, G.	ENVR	479
Ovalle, V.	ANYL	303	Pagano, P.L.	BIOL	165	Pan, G.	ENVR	814
Ovalle, V.	CATL	196	Pagba, C.V.	COMP	566	Pan, H.	ENFL	28
Oveisi, E.	POLY	383	Page, J.	ENFL	80	Pan, H.	PMSE	665
Overchuk, M.	COLL	60	Page, K.	CATL	113	Pan, H.	POLY	164
Overchuk, M.	COLL	454	Page, R.C.	POLY	16	Pan, H.	TOXI	106
Overton, K.	COLL	528	Page, Z.A.	POLY	124	Pan, H.	ENFL	153
Oviedo, M.B.	COMP	208	Pagel, K.	CARB	16	Pan, H.	ENFL	210
Øvrebo, H.	COLL	69	Pagel, K.	CARB	82	Pan, J.Q.	COMP	565
Ow, H.	ENFL	311	Pagnotti, V.	PMSE	460	Pan, K.	ENVR	502

Pan, L.	COLL	477	Papa Lopes, P.	ENFL	9	Park, J.	PMSE	437
Pan, L.	CATL	284	Papantonakis, M.	ORGN	527	Park, J.	PMSE	463
Pan, L.	ENFL	361	Papiernik, S.K.	AGRO	48	Park, J.	PMSE	559
Pan, M.	AGFD	179	Papineni, S.	AGRO	64	Park, J.	COLL	371
Pan, M.	AGFD	205	Papish, E.T.	CHED	255	Park, J.	INOR	468
Pan, M.	AGFD	261	Papp, C.	CATL	122	Park, J.	PMSE	487
Pan, P.	POLY	319	Pappalardi, M.B.	MEDI	25	Park, J.	CATL	329
Pan, S.	ANYL	341	Pappu, R.V.	COMP	398	Park, J.	COLL	185
Pan, S.	ANYL	343	Parac-Vogt, T.N.	INOR	195	Park, J.	COLL	317
Pan, S.	ANYL	348	Paradiso, D.	ENFL	298	Park, J.	COLL	514
Pan, S.	ANYL	387	Parak, W.	COLL	124	Park, J.	ENFL	404
Pan, S.	ANYL	391	Parak, W.	COLL	365	Park, J.	I&EC	23
Pan, S.	PHYS	297	Parak, W.	COLL	710	Park, K.	CATL	474
Pan, S.	ORGN	275	Parak, W.	PMSE	285	Park, K.	COLL	303
Pan, S.	POLY	469	Parala, H.	INOR	161	Park, K.	ENFL	251
Pan, S.	ENVR	544	Parambath, A.	PMSE	631	Park, K.	ENVR	556
Pan, T.	ENVR	602	Parambath, A.	POLY	139	Park, K.	POLY	401
Pan, X.	POLY	616	Parang, K.	MEDI	203	Park, K.	PMSE	502
Pan, X.	ENVR	153	Parang, K.	MEDI	249	Park, K.	BIOL	31
Pan, X.	ENVR	706	Paranthaman, P.P.	ENFL	524	Park, K.	INOR	718
Pan, X.	ENVR	707	Paraselli, P.	MEDI	325	Park, M.	COLL	286
Pan, X.	CATL	69	Parasuram, R.	COMP	361	Park, M.	AGFD	65
Pan, X.	CATL	71	Pardakhti, M.	COMP	304	Park, M.	AGFD	65
Pan, X.	COMP	485	Pardakhti, M.	COMP	309	Park, M.	POLY	286
Pan, X.	ANYL	202	Pardatscher, L.	CATL	210	Park, M.	POLY	433
Pan, X.	ANYL	556	Parent, J.	ORGN	194	Park, N.	COLL	408
Pan, X.	COLL	321	Parent, J.	ORGN	660	Park, N.	PMSE	126
Pan, X.	COLL	431	Parent, L.R.	PMSE	166	Park, N.	POLY	403
Pan, X.	COLL	601	Parenti, N.	INOR	524	Park, N.	POLY	534
Pan, X.	INOR	418	Parham, G.L.	MEDI	425	Park, P.	ANYL	136
Pan, Y.	ENVR	48	Paris, A.	ENFL	338	Park, P.	ANYL	137
Pan, Y.	ENFL	124	Parise, J.B.	PHYS	189	Park, R.	CHED	74
Pan, Z.	AGRO	144	Parise, V.P.	CHED	295	Park, R.	CARB	73
Panagakou, I.	MEDI	266	Parise, V.P.	ORGN	389	Park, S.D.	PHYS	154
Panamarova, M.	POLY	486	Paritmongkol, W.	INOR	530	Park, S.	CARB	19
Panangala, S.	ENFL	289	Parizi, M.P.	ENVR	566	Park, S.	ENVR	344
Panchan, W.	AGFD	296	Park, A.A.	COLL	352	Park, S.	INOR	68
Panchan, W.	INOR	551	Park, A.A.	ENFL	36	Park, S.	BIOL	43
Panchan, W.	INOR	673	Park, A.A.	ENFL	71	Park, S.	ORGN	138
Pancost-Heidebrecht, M.	COMP	141	Park, A.A.	ENFL	303	Park, S.	ENFL	404
Panda, D.	CHED	370	Park, A.A.	ENFL	321	Park, S.	ANYL	44
Pande, J.	BIOL	60	Park, A.A.	ENFL	446	Park, S.	MEDI	373
Pande, V.S.	WCC	5	Park, A.	PMSE	415	Park, S.	AGRO	280
Pandelus, S.	NUCL	45	Park, A.	PMSE	570	Park, S.Y.	ENFL	282
Pandey, A.	COLL	436	Park, B.	INOR	726	Park, S.Y.	ENVR	547
Pandey, A.	COLL	10	Park, B.	AGFD	171	Park, S.	ENFL	266
Pandey, G.	ORGN	594	Park, B.	AGFD	295	Park, S.	ENFL	286
Pandey, R.R.	ANYL	477	Park, B.	ENFL	226	Park, S.	ENFL	511
Pandey, S.	ANYL	312	Park, B.	ENFL	227	Park, S.	PHYS	427
Pandiri, K.R.	PHYS	318	Park, C.	PMSE	682	Park, S.V.	INOR	544
Pandiri, K.R.	PHYS	440	Park, C.	PHYS	303	Park, S.	ENFL	282
Pandit, R.	AGFD	263	Park, C.	ENVR	530	Park, S.	POLY	352
Pandorf, M.	ENVR	748	Park, C.	MEDI	152	Park, S.	MEDI	152
Pandrala, M.	INOR	183	Park, C.	PMSE	485	Park, T.	ENVR	662
Pandrala, M.	MEDI	93	Park, C.	MEDI	186	Park, T.	ENVR	725
Pandrala, M.	MEDI	94	Park, C.	PMSE	381	Park, W.	PMSE	515
Panescu, P.	POLY	81	Park, C.	ENFL	27	Park, Y.	AGFD	57
Panetier, J.	INOR	239	Park, D.	ORGN	139	Park, Y.	AGFD	331
Panetier, J.	INOR	557	Park, D.	ENVR	715	Park, Y.	ENVR	763
Pang, H.	ORGN	132	Park, D.	PMSE	411	Park, Y.	ANYL	99
Pang, J.	BIOL	231	Park, E.	ANYL	162	Parke, S.	INOR	382
Pang, J.	MEDI	278	Park, G.	PMSE	682	Parker, C.	ANYL	517
Pang, R.	PMSE	649	Park, H.	CATL	322	Parker, C.	MEDI	29
Pang, Y.	ANYL	318	Park, H.	INOR	732	Parker, D.	INOR	271
Pangallo, K.	CHED	147	Park, H.	ENFL	25	Parker, D.J.	PMSE	457
Pangallo, K.	CHED	215	Park, H.	ORGN	141	Parker, J.F.	ENFL	46
Pangallo, K.	CHED	216	Park, H.	AGRO	325	Parker, J.F.	ENFL	354
Panger, M.	AGRO	22	Park, H.	AGRO	326	Parker, J.F.	ENFL	380
Pangon, A.	ENVR	837	Park, H.	AGRO	327	Parker, R.	ANYL	226
Panich, A.	ENFL	291	Park, H.	AGRO	328	Parker, R.	ANYL	15
Panicker, S.	INOR	462	Park, H.	ORGN	375	Parker, S.	MEDI	350
Panicker, S.	INOR	727	Park, H.	COLL	522	Parker, S.M.	COMP	163
Panossian, A.	ORGN	351	Park, H.	ENFL	553	Parker, S.M.	COMP	207
Pant, K.K.	CATL	255	Park, H.	COMP	582	Parker, S.F.	CATL	112
Pant, S.	COMP	256	Park, H.	ENVR	822	Parker, S.F.	CATL	114
Panteleev, S.V.	PHYS	570	Park, H.	AGFD	48	Parker, S.F.	CATL	117
Panthi, D.	COMP	523	Park, H.	AGFD	50	Parkin, S.	INOR	572
Pantoja, M.	PMSE	74	Park, I.	ENFL	401	Parks, J.M.	CELL	1
Pantoja Feliciano, I.	AGFD	311	Park, J.	BIOL	226	Parks, M.	CHED	290
Pantoja-Feliciano, I.	AGFD	277	Park, J.	INOR	553	Parnell, L.D.	AGFD	312
Pantoja Romero, W.S.	INOR	721	Park, J.	ENVR	157	Parobek, A.	PHYS	22
Pantos, G.	INOR	646	Park, J.	ENFL	260	Parr, A.	AGRO	279
Pantos, G.	ORGN	517	Park, J.	MEDI	373	Parr, M.L.	INOR	504
Panyam, J.	COLL	385	Park, J.	COLL	201	Parr, T.	CHAS	45
Papa, F.	ORGN	143	Park, J.	CATL	96	Parra, R.	ENVR	608
Papa, L.	BIOL	178	Park, J.	ENFL	404	Parr-Dobrzanski, B.	AGRO	62
Papa, L.	BIOL	236	Park, J.	ORGN	131	Parrill-Baker, A.L.	MEDI	170
Papa, L.J.	BIOL	303	Park, J.	ORGN	348	Parrish, K.	ENVR	243
Papacostas, K.	CHED	327	Park, J.	CHED	152	Parrish, S.E.	INOR	411
Papadakis, C.M.	POLY	316	Park, J.	INOR	461	Parrocha, C.	CHED	351
Papadatos, G.	CINF	116	Park, J.	INOR	469	Parsons, D.	ORGN	639
Papadimitrakopoulos, F.	COLL	669	Park, J.	PHYS	157	Parsons, G.	INOR	116
Papaefthymiou Davis, G.	MPPG	25	Park, J.	AGRO	280	Parsons, J.G.	ENVR	734
Papa Lopes, P.	CATL	471	Park, J.	PMSE	411	Parsons, L.	CARB	58

Parsons, M.	CINF	87	Patrick, D.L.	COLL	78	Pedersen, J.A.	ANYL	394
Parsons, N.	PMSE	63	Patrick, G.J.	BIOL	301	Pedersen, J.A.	ANYL	398
Partelow, A.	CHED	252	Patrick, J.	CHED	194	Pedersen, J.A.	ANYL	399
Partridge, B.E.	POLY	372	Patros, K.M.	PHYS	482	Pedersen, J.A.	COLL	632
Parulkar, A.	CATL	511	Patrow, J.	PHYS	264	Pedersen, J.A.	ENVR	213
Parulkar, A.	ENFL	413	Pattanaik, L.	CATL	271	Pedersen, S.	ENVR	492
Parulski-Seager, D.	CELL	50	Pattanaik, S.	PMSE	171	Pedesseau, L.	INOR	441
Parveen, R.	INOR	32	Pattani, A.	CHED	421	Pedram, K.	ANYL	320
Parvin, M.	ANYL	184	Pattaropong, V.	MEDI	322	Pedretti, A.	AGRO	86
Parvin, M.	ANYL	185	Pattelli, O.	BIOL	195	Peeks, M.	ORGN	529
Parviz, D.	ANYL	330	Pattengale, B.	PHYS	526	Peer, A.	COLL	226
Parviz, D.	COLL	286	Patterson, A.	PMSE	647	Peerzade, S.	ANYL	262
Pasc, A.	AGFD	230	Patterson, D.	PHYS	135	Peerzade, S.	COLL	787
Pasc, A.	COLL	590	Patterson, H.H.	INOR	460	Peeters, D.	INOR	627
Pascal, R.	ORGN	455	Patterson, H.H.	INOR	731	Pehrsson, P.E.	COLL	39
Pascal, T.	PMSE	177	Patterson, H.H.	INOR	757	Pehrsson, P.E.	COLL	336
Pascault, J.	PMSE	711	Patterson, H.H.	INOR	759	Pehrsson, P.E.	POLY	553
Paschinger, K.	CARB	37	Patterson, M.	BIOL	194	Pei, A.	PMSE	33
Pascu, S.	COLL	607	Pattillo, C.	PMSE	630	Pei, A.	PMSE	39
Pascu, S.	INOR	637	Pattis, J.	COMP	142	Pei, Y.	COLL	660
Pascual, L.M.	INOR	261	Pattison, T.	MPPG	105	Pei, Y.	ANYL	70
Pascual, L.M.	POLY	36	Patton, D.L.	PMSE	297	Pei, Y.	CATL	179
Pascucci, A.	CHED	325	Patwa, A.	MEDI	110	Pei, Y.	CATL	299
Pashkuleva, I.	CARB	112	Patwa, A.N.	PMSE	424	Peinemann, K.	PMSE	346
Pashkuleva, I.	CARB	113	Patwary, M.U.	PROF	44	Peitz, S.	CATL	55
Pashkuleva, I.	COLL	486	Patzke, G.R.	INOR	196	Peji, S.	INOR	54
Pasinetti, G.	AGFD	18	Paudel, H.P.	COMP	322	Pekcevik, I.	COLL	29
Pasquali, M.	CHED	273	Paudel, H.P.	COMP	572	Pelegrí, A.	COLL	720
Pasquinelli, M.A.	CINF	42	Paudel, H.P.	PHYS	496	Pelger, L.	CHAS	2
Passerini, S.	ANYL	250	Paudel, R.R.	ORGN	147	Pellegrini, B.	COMP	135
Passow, K.	BIOL	184	Paul, P.	MEDI	368	Pellegrini, M.	INOR	578
Pasteris, J.D.	ENVR	539	Paul, R.	CATL	389	Peller, J.R.	ENVR	242
Pastore, V.J.	INOR	638	Paul, S.	TOXI	73	Pelletier, D.	BIOL	53
Pastore, V.J.	PMSE	555	Paul, T.J.	COLL	532	Pelletier, J.	CATL	158
Pasumarthi, V.	COMP	445	Paulechka, E.	COMP	477	Pellman, M.C.	ENVR	515
Pásztor, S.	POLY	398	Paul-Friedman, K.	ENVR	164	Pellow, C.	COLL	60
Patalano, R.E.	CATL	388	Paulraj, T.	CELL	29	Pellow, C.	COLL	462
Patane, M.A.	MEDI	410	Paulsen, A.	ENVR	179	Pelms, M.	INOR	675
Patch, D.	ENVR	360	Paulsen, A.	ENVR	304	Peloquin, A.	INOR	500
Patel, A.	ENVR	557	Paulson, E.R.	INOR	712	Peloquin, D.M.	ENVR	356
Patel, A.H.	ANYL	153	Paulson, J.C.	CARB	73	Pelse, I.	PMSE	403
Patel, A.	COMP	242	Paulson, J.	PMSE	641	Peltier, E.F.	ENFL	370
Patel, A.	POLY	208	Paulson, S.W.	POLY	320	Peltier, J.L.	INOR	618
Patel, A.	BIOL	90	Paushkin, S.	MEDI	286	Pelton, M.	MPPG	82
Patel, A.	AGFD	211	Pauthner, M.	CARB	73	Pemberton, S.	POLY	258
Patel, A.S.	AGFD	231	Pavadai, E.	CINF	26	Pena, C.C.	INOR	724
Patel, C.	CHED	253	Pavan, F.R.	MEDI	118	Pena, C.C.	INOR	744
Patel, D.	PMSE	446	Pavanello, M.	COMP	10	Pena, D.	MEDI	418
Patel, D.	CATL	395	Pavanello, M.	PHYS	212	Pena, J.	ENVR	473
Patel, H.	ORGN	509	Pavano, M.	CHED	317	Pena, L.	NUCL	3
Patel, H.H.	INOR	675	Pavel Sizemore, I.E.	PMSE	270	Peña, D.	AGRO	179
Patel, H.M.	ORGN	391	Pavlinov, I.	ORGN	389	Peña, W.	CHED	174
Patel, J.	COLL	706	Pavlova, A.	COMP	435	Penchoff, D.	NUCL	84
Patel, J.	AGRO	383	Pawlaczyk, P.D.	PHYS	464	Penchoff, D.A.	NUCL	23
Patel, J.S.	MEDI	268	Pawle, R.	BIOL	110	Penchoff, D.A.	NUCL	83
Patel, K.	COMP	312	Pawliszyn, J.B.	ANYL	309	Penfold, T.	PHYS	217
Patel, M.	COLL	169	Pawson, A.J.	CINF	67	Penfold, T.	PHYS	278
Patel, M.	CHED	312	Pawson, A.J.	CINF	76	Peng, A.	CATL	239
Patel, M.	MEDI	25	Pawson, A.J.	CINF	117	Peng, B.	PMSE	432
Patel, M.A.	ENFL	292	Paxton, W.	POLY	236	Peng, B.	COLL	787
Patel, M.M.	ORGN	391	Payack, J.	CHAS	48	Peng, B.	COMP	129
Patel, S.M.	BIOL	47	Paydary, P.	ENVR	70	Peng, C.	PMSE	552
Patel, S.	MEDI	128	Paydary, P.	ENVR	290	Peng, C.	MEDI	57
Patel, S.	PMSE	819	Peace, S.	MEDI	208	Peng, C.	MEDI	58
Patel, S.D.	MEDI	5	Peace, S.	MEDI	271	Peng, C.	COLL	392
Patel, S.	CHED	143	Peacock, Z.S.	ORGN	272	Peng, C.	COLL	542
Patel, V.	COLL	613	Peak, D.	ENVR	619	Peng, C.	INOR	583
Patén, J.	CHED	340	Pearce, C.	GEOC	46	Peng, F.	BIOL	78
Patén, J.A.	PMSE	473	Pearce, C.	GEOC	51	Peng, H.	COLL	499
Paterson, A.J.	ENVR	318	Pearce, C.	INOR	355	Peng, J.	COLL	62
Pates Jamet, H.V.	AGRO	33	Pearce, C.	INOR	758	Peng, J.	ENVR	644
Pathak, A.	CATL	148	Pearce, C.	CATL	94	Peng, P.	ENVR	329
Pathak, R.	COLL	436	Pearce, H.	COMP	270	Peng, P.	POLY	427
Pathare, S.	AGRO	142	Pearce, S.	AGFD	310	Peng, Q.	MEDI	366
Pathiraja, G.	PMSE	705	Pearl, T.P.	POLY	257	Peng, T.	MPPG	21
Patil, B.	AGFD	60	Pearlman, E.	POLY	104	Peng, W.	ANYL	117
Patil, B.	AGFD	343	Pearse, A.	ENFL	467	Peng, W.	COMP	164
Patil, P.	MEDI	394	Pearson, R.A.	PMSE	223	Peng, X.	ANYL	341
Patil, P.	ORGN	200	Pearson, R.A.	PMSE	288	Peng, X.	CATL	353
Patil, R.	MEDI	158	Pearson, R.M.	ORGN	74	Peng, X.	MEDI	279
Patil, S.	CARB	123	Peat, A.J.	ORGN	221	Peng, Y.	ENVR	246
Patil, S.	ENFL	160	Pecha, B.	ENFL	299	Peng, Y.	AGFD	57
Patil, S.	MEDI	158	Peck, C.	AGRO	22	Peng, Y.	AGFD	331
Patil, S.A.	MEDI	158	Peck, C.	AGRO	229	Peng, Y.	AGFD	102
Patil, V.	MEDI	158	Peck, C.	AGRO	230	Peng, Y.	ENFL	20
Patil, V.	AGFD	172	Peck, C.	AGRO	235	Peng, Y.	ENVR	586
Patlewicz, G.	ENVR	115	Peck, C.	AGRO	333	Penhallurick, R.	COMP	414
Patlewicz, G.	ENVR	314	Pecoraro, V.L.	TOXI	26	Penman, N.M.	BIOL	205
Patnala, S.	COMP	271	Peczuh, M.W.	CARB	101	Penn, R.	COLL	5
Paton, R.	CATL	363	Pedersen, C.	AGRO	296	Penn, R.	COLL	86
Paton, R.	ENFL	178	Pedersen, J.N.	CARB	92	Penn, R.	GEOC	41
Paton, R.	ORGN	191	Pedersen, J.N.	I&E	42	Penn, R.	INOR	248
Paton, R.	ORGN	357	Pedersen, J.A.	ANYL	392	Pennaka, H.	AGRO	249
Patonay, G.	ANYL	540	Pedersen, J.A.	ANYL	393	Pennathur, S.	ANYL	43

Pennell, K.	ENVR	665	Perkins, K.M.	ENVR	799	Peterson, E.	ORGN	400
Pennell, K.D.	ENVR	372	Perkins, K.	MEDI	289	Petery, B.	ENVR	476
Penner, M.H.	AGFD	136	Perlin, A.	ENVR	805	Petit, C.	INOR	241
Penning, T.M.	TOXI	70	Perman, J.A.	I&E	33	Petit, C.	POLY	277
Pennington, A.	CATL	420	Perna, P.	COLL	320	Petit, C.	POLY	298
Pennington, W.T.	COMP	365	Pero, J.E.	MEDI	279	Pettit, B.	PROF	2
Pensec, S.	POLY	299	Pero, J.E.	ORGN	86	Petkov, V.	CATL	19
Pentelute, B.L.	BIOL	115	Perreault, F.	ENVR	34	Petkov, V.	CATL	474
Pentelute, B.L.	CARB	128	Perreault, F.	ENVR	424	Petkov, V.	ENFL	251
Pentelute, B.L.	COMP	372	Perreault, F.	ENVR	521	Petkov, V.	ENFL	547
Pentelute, B.L.	ORGN	486	Perreault, L.	COLL	163	Petkov, V.	ENVR	652
Penton, K.	PMSE	338	Perreault, M.	BIOL	189	Petr, M.	POLY	14
Penton, K.	PMSE	418	Perreault, W.E.	PHYS	31	Petrauskas, V.	MEDI	383
Pentzer, E.	ENFL	172	Perrera, C.	MEDI	365	Petrich, J.W.	ANYL	357
Pentzer, E.	PMSE	607	Perretti, M.	MEDI	100	Petridis, L.	CELL	10
Pentzer, E.	POLY	165	Perrier, S.	POLY	182	Petridis, L.	CELL	13
Penvern, G.	POLY	155	Perrier, S.	POLY	185	Petrikovics, I.	TOXI	54
Penwell, S.	PHYS	99	Perrier, S.	POLY	300	Petrone, A.	COMP	52
Pepe, A.	MEDI	161	Perriman, A.	POLY	490	Petronis, S.	PMSE	724
Pepin, P.A.	CATL	376	Perrin, R.	POLY	206	Petropoulos, C.J.	MEDI	233
Peppas, N.	PMSE	372	Perrine, K.A.	CATL	181	Petrou, A.	INOR	514
Peppas, N.	POLY	21	Perrine, K.A.	COLL	237	Petrov, D.P.	MEDI	163
Peranginangin, N.	AGRO	20	Perris, B.L.	ANYL	97	Petrovic, D.	BIOL	68
Peranginangin, N.	AGRO	49	Perris, B.L.	ANYL	168	Petrovic, D.	COMP	401
Peraro, L.	ORGN	163	Perris, B.L.	I&E	50	Petrovich, M.	ENVR	249
Peraro, L.	ORGN	165	Perry, D.	INOR	408	Petrucci, G.	ANYL	124
Peraro, L.	ORGN	299	Perry, M.D.	CHED	62	Petrukhin, K.	MEDI	9
Peraza, C.	CHED	173	Perry, M.L.	ENFL	376	Petrukhina, M.A.	INOR	142
Percec, V.	CELL	38	Perry, T.	CHED	129	Petrukhina, M.A.	INOR	157
Percec, V.	POLY	372	Perryman, A.L.	CINF	24	Petrukhina, M.A.	INOR	341
Percec, V.	POLY	499	Perryman, A.L.	MEDI	114	Pettersen, D.	MEDI	320
Perdew, J.P.	COLL	499	Perryman, A.L.	MEDI	268	Pettersson, F.	ORGN	169
Perea, J.	MEDI	432	Pershun, M.	BIOL	256	Pettersson, J.	PMSE	724
Pereira, N.	ENFL	402	Persson, K.	ENFL	204	Pettitt, B.M.	CHED	377
Pereira, A.M.	PMSE	812	Persson, K.	ENFL	205	Pettitt, B.M.	MEDI	228
Pereira, N.	PHYS	114	Persson, K.	ENFL	471	Petty, A.J.	PHYS	518
Pereira, T.	MEDI	311	Persson, N.	PMSE	657	Petty, J.T.	COLL	738
Pereira-Hernandez, X.	CATL	242	Peruski, K.M.	NUCL	32	Petucci, J.	PHYS	541
Pereira-Hernandez, X.	CATL	410	Perween, S.	PMSE	636	Petzhold, C.L.	POLY	329
Perepichka, D.F.	ANYL	370	Peryshkov, D.V.	INOR	34	Peveler, W.J.	PMSE	526
Perepichka, D.F.	ORGN	532	Pesce-Rodriguez, R.A.	COLL	203	Pez, G.P.	ENFL	377
Perera, D.C.	COMP	384	Pester, C.	PMSE	316	Pezzato, C.	ORGN	509
Perera, H.J.	PMSE	595	Pestian, N.	PMSE	270	Pezzato, C.	POLY	551
Perera, K.	ENVR	17	Petasis, N.A.	MEDI	153	Pfaendner, R.	POLY	7
Perera, L.	CINF	42	Petasis, N.A.	MEDI	407	Pfefferle, L.	ENVR	159
Perera, M.S.	POLY	327	Petasis, N.A.	MEDI	408	Pfeiffer, T.	PHYS	207
Perera, R.T.	CATL	340	Petasis, N.A.	ORGN	638	Pfennig, T.	CATL	225
Perera, T.A.	INOR	125	Petcher, S.	PMSE	457	Pfister, H.B.	CARB	98
Perera, U.	ANYL	197	Petdum, A.	INOR	551	Pfost, M.	PMSE	772
Perets, E.	ANYL	452	Petdum, A.	INOR	673	Phadke, A.S.	MEDI	261
Perez, A.F.	POLY	355	Petel, B.	INOR	48	Phadke, S.	BIOL	27
Perez, A.	NUCL	77	Petel, B.	INOR	52	Pham, A.	CHAS	1
Perez, B.	AGRO	342	Peterca, M.	POLY	372	Pham, A.	CHAS	47
Perez, C.	ORGN	375	Petering, D.H.	BIOL	283	Pham, C.K.	CHED	238
Perez, C.	PHYS	135	Peterkin, V.	MEDI	369	Pham, C.	GEOC	31
Perez, D.	ENFL	373	Peterman, K.E.	ENVR	167	Pham, C.	ENVR	740
Perez, E.M.	ORGN	311	Petermann, L.	ENFL	544	Pham, D.	CHED	254
Perez, J.M.	POLY	329	Peters, A.	CATL	87	Pham, H.Q.	COMP	554
Perez, J.	MEDI	437	Peters, B.	CATL	60	Pham, J.	MEDI	381
Perez, J.A.	INOR	181	Peters, B.J.	COLL	644	Pham, K.H.	INOR	478
Perez, L.J.	MEDI	442	Peters, B.J.	MEDI	195	Pham, L.	INOR	507
Perez, T.J.	CARB	32	Peters, C.A.	ENVR	345	Pham, P.T.	PMSE	507
Pérez, B.	CARB	92	Peters, C.A.	GEOC	38	Pham, Q.	PMSE	623
Pérez, B.	I&E	42	Peters, S.J.	BIOL	237	Pham, T.	CATL	29
Pérez De León, A.A.	AGRO	149	Peters, T.	ENVR	157	Pham, V.	CHED	285
Pérez-Fuentetaja, A.	ENVR	726	Peters, W.K.	PHYS	197	Phan, H.T.	COLL	633
Perez-Gonzalez, M.	ANYL	107	Peters, W.K.	PHYS	386	Phan, M.	COLL	664
Perez-Madrigal, M.	PMSE	672	Petersen, C.	BIOL	176	Phelan, B.T.	INOR	108
Perez Mandry, C.	ORGN	411	Petersen, K.S.	ORGN	110	Phelan, F.R.	CINF	66
Perez Martinez, D.	CATL	316	Petersen, S.R.	CELL	43	Phelan, F.R.	COLL	97
Perez Perez, M.	POLY	471	Peterson, A.M.	COLL	718	Phelan, F.R.	POLY	214
Perez-Perez, L.	MEDI	371	Peterson, C.F.	COLL	255	Phi, K.	TOXI	14
Pérez-Pertejo, Y.	ORGN	367	Peterson, C.C.	NUCL	23	Phifer, R.W.	CHAS	9
Perez-Ramirez, J.	CATL	480	Peterson, C.C.	NUCL	83	Philbin, J.P.	COMP	5
Perez Rodriguez, M.	AGFD	189	Peterson, C.C.	NUCL	84	Philip, M.	ENFL	141
Perez Rodriguez, M.	CHED	48	Peterson, D.G.	AGFD	306	Philippe, J.	ENVR	504
Perez Rodriguez, N.	MPPG	38	Peterson, E.	PHYS	501	Philipson, Y.	MEDI	354
Perez Ruiz, A.	COLL	231	Peterson, E.M.	ANYL	216	Philip Wall, P.	CATL	205
Pérez Vázquez, M.	MEDI	1	Peterson, G.W.	POLY	556	Phillips, A.	GEOC	69
Pérez-Venegas, M.	ORGN	209	Peterson, G.	COLL	336	Phillips, A.	BIOL	134
Perfetto, A.	COMP	9	Peterson, G.	INOR	116	Phillips, D.L.	ENFL	264
Pericas, M.A.	ORGN	477	Peterson, G.	POLY	552	Phillips, D.	INOR	56
Perinbam, K.	POLY	104	Peterson, J.J.	COLL	236	Phillips, E.	ORGN	16
Perine, J.W.	AGRO	79	Peterson, J.	AGFD	306	Phillips, G.N.	BIOL	36
Perine, J.W.	AGRO	246	Peterson, J.	ANYL	501	Phillips, G.N.	BIOL	89
Perine, J.W.	AGRO	317	Peterson, K.I.	COLL	239	Phillips, J.A.	INOR	546
Perinovic, N.	ENVR	410	Peterson, L.A.	TOXI	5	Phillips, K.	AGRO	28
Perkins, B.	AGFD	88	Peterson, L.A.	TOXI	79	Phillips, K.	AGRO	29
Perkins, D.	AGRO	50	Peterson, M.T.	CHED	293	Phillips, L.	ANYL	237
Perkins, D.	AGRO	58	Peterson, S.C.	COLL	42	Phillips, M.	AGRO	155
Perkins, D.	AGRO	231	Peterson, T.	POLY	524	Phillips, O.	POLY	508
Perkins, J.	ORGN	174	Peterson, T.E.	COLL	459	Phue, J.	ANYL	110
Perkins, J.	ORGN	383	Petersonson, E.	BIOL	30	Phue, W.H.	AGFD	96
Perkins, K.M.	AGFD	323	Petersson, E.	BIOL	125	Phuengwas, S.	AGFD	296

Pianovich, N.	MEDI	449	Pinkas, J.	INOR	580	Pogna, E.	PHYS	547
Piao, G.	ENVR	822	Pinney, K.G.	MEDI	97	Pogodin, P.	CINF	160
Piatkevich, K.D.	ANYL	539	Pinska, A.	COMP	248	Pogue, B.	COLL	51
Picard, M.	AGRO	310	Pint, B.A.	I&EC	9	Pogue, B.	MEDI	247
Picayo, G.	NUCL	55	Pintauro, P.N.	ENFL	505	Pohida, K.	MEDI	302
Picciotto, A.	POLY	502	Pinter, T.	TOXI	26	Pohl, N.L.	CARB	27
Pich, A.	POLY	350	Pinto, A.H.	CHED	353	Pohl, N.L.	CARB	128
Pich, A.	POLY	397	Pinto, A.H.	COLL	238	Pohl, N.L.	COMP	372
Pichichero, M.	BIOL	94	Pinto, A.J.	ENVR	263	Poindexter, M.	COLL	801
Pickard, H.	ENVR	729	Pinto, G.C.	POLY	329	Poirier, D.	BIOL	189
Pickard, H.M.	ENVR	49	Pinto, M.	CINF	4	Poirier, D.	MEDI	375
Pickard, H.M.	ENVR	732	Pinto, P.	ENVR	175	Poirier, S.	COLL	284
Pickard, M.	BIOL	256	Piontkowski, Z.	INOR	314	Poitevin, F.	COMP	68
Pickens, J.B.	BIOL	81	Piotrowski, D.W.	ORGN	273	Pokharel, S.	INOR	99
Pickens, J.B.	CARB	107	Piper, L.	ENFL	387	Pokharel, U.R.	INOR	591
Piechota, E.	INOR	358	Piper, L.	ENFL	402	Pokhrel, S.	INOR	775
Piemontesi, C.	ORGN	519	Pippin, D.A.	MEDI	106	Pokorski, J.K.	PMSE	78
Pienkos, P.T.	CATL	401	Piquette, A.P.	INOR	562	Pokross, M.	MEDI	56
Pienkos, P.T.	ENFL	479	Piquette, M.	INOR	174	Pol, H.V.	PMSE	781
Pieper, K.	ENVR	149	Pirali, O.	PHYS	487	Pol, H.V.	PMSE	785
Pierce, D.K.	COLL	455	Pirali, O.	PHYS	558	Polakovskiy, A.	COMP	535
Pierce, J.	BIOL	94	Pires, J.	MEDI	339	Polgar, T.	CINF	2
Pierce, J.G.	MEDI	12	Pires, R.	CARB	112	Polgar, T.	SCHB	34
Pierce, O.	COMP	449	Pires, R.	CARB	113	Poli, M.	BIOL	258
Pierce, R.D.	ENVR	187	Pires, R.	COLL	570	Poli, R.	INOR	94
Pierce, R.D.	ENVR	522	Pirhaji, L.	COMP	153	Policarpo, R.	ORGN	251
Pierce, S.	COLL	196	Pirhaji, L.	COMP	213	Policarpo, R.L.	ORGN	647
Pierson, N.A.	ANYL	560	Pirinelli, A.	CARB	34	Poliks, M.D.	ANYL	97
Pieschl, R.	MEDI	50	Piro, N.A.	INOR	511	Poliks, M.D.	ANYL	168
Pieschl, R.	MEDI	51	Piro, N.A.	INOR	595	Poliiks, M.D.	I&EC	29
Pieters, P.	PHYS	425	Pirone, A.	MEDI	14	Poliks, M.D.	I&EC	50
Pieterse, J.	ENFL	68	Pirrone, M.G.	MEDI	378	Polinski, N.	ENFL	488
Pietra, N.	PMSE	516	Pitchaimani, A.	COLL	467	Pollard, T.P.	PHYS	117
Pietron, J.	PMSE	558	Pitchford, A.	AGRO	16	Pollastri, M.P.	CHED	257
Pietro Paolo, A.	COMP	45	Pithwa, B.	MEDI	126	Pollastri, M.P.	CHED	260
Pigg, H.	INOR	451	Pitois, O.	PMSE	280	Pollastri, M.P.	MEDI	33
Piggott, A.M.	CINF	6	Pitelli, S.	PMSE	29	Pollastri, M.P.	MEDI	34
Pignatello, J.J.	ENVR	364	Pittendrigh, B.	AGRO	36	Pollastri, M.P.	MEDI	36
Pignatello, J.J.	ENVR	761	Pitteri, S.	MEDI	94	Pollastri, M.P.	MEDI	37
Pignatello, J.J.	ENVR	779	Pittman, Z.	ENVR	601	Pollastri, M.P.	MEDI	38
Pike, K.	MEDI	19	Pitts, W.J.	MEDI	56	Pollastri, M.P.	MEDI	310
Pike, R.D.	INOR	460	Piunova, V.A.	CHED	380	Pollastri, M.P.	MEDI	335
Pike, R.D.	INOR	757	Piunova, V.A.	MPPG	112	Pollock, E.	AGFD	132
Pike, R.D.	INOR	759	Piunova, V.A.	PMSE	11	Pollozi, S.	NUCL	29
Pilapil, B.	COLL	10	Pivovar, B.S.	ENFL	317	Pollozi, S.	NUCL	59
Pilgrim, B.S.	ORGN	427	Pivovar, B.S.	ENFL	319	Polly, R.	NUCL	30
Pilgrim, B.S.	ORGN	515	Piyanuch, P.	INOR	361	Polly, R.	NUCL	68
Pilkington, L.I.	AGFD	249	Piyanuch, P.	INOR	700	Polo, E.	COLL	109
Pilkington, L.I.	AGFD	347	Piyasena, M.E.	AGRO	85	Polo, E.	COLL	768
Pilkington, L.I.	MEDI	11	Pizana, M.	ANYL	145	Polo, E.	COLL	770
Pilkington, L.I.	MEDI	207	Pizzagalli, M.	BIOL	121	Polo Garzon, F.	I&EC	22
Pilkington, L.I.	ORGN	199	Pizzuto, M.	CHED	45	Polo-Garzon, F.	CATL	234
Pilkington, L.I.	ORGN	668	Plache, D.	BIOL	93	Polowick, P.	COLL	214
Pillai, V.V.	CATL	201	Plaisance, C.	CATL	232	Polyansky, D.E.	INOR	252
Pillai, V.V.	INOR	737	Planalp, R.P.	NUCL	14	Polyansky, O.L.	PHYS	481
Pillai, X.	AGRO	389	Planavsky, N.	GEOC	43	Pomarico, S.	PMSE	26
Pillai, X.	CHAL	1	Planje, I.J.	ENVR	529	Pomarico, S.K.	POLY	37
Pillarella, N.	MEDI	246	Planken, S.	ORGN	493	Pomerantseva, E.	ENFL	107
Pille, J.	PMSE	358	Pla-Quintana, A.	ORGN	536	Pomerantseva, E.	ENFL	358
Pilli, R.A.	PMSE	46	Plass, K.	CHED	281	Pomerantseva, E.	PHYS	289
Pilli, R.A.	PMSE	442	Plass, K.	INOR	474	Pomerantz, N.C.	CATL	518
Pillow, T.	MEDI	15	Platella, C.	ANYL	165	Pomerantz, W.C.	BIOL	265
Pillow, T.	ORGN	225	Platt, T.G.	COLL	564	Pomes, R.	COMP	104
Pilon, A.	CINF	4	Platz, K.	AGRO	51	Pomès, R.	COMP	184
Pimachev, A.	COMP	78	Plaxco, K.	ANYL	424	Pomper, M.G.	COLL	454
Pimentel Martínez, E.	CATL	316	Plehiars, P.P.	CINF	166	Ponder, J.	PMSE	29
Pimpalkar, N.	PMSE	794	Plehiars, P.P.	COMSCI	7	Ponnurangam, S.	CATL	37
Pinar, A.B.	CATL	421	Plehiars, P.P.	ENFL	102	Ponnurangam, S.	COLL	421
Pincus, L.N.	ENVR	421	Plehiars, P.P.	ENFL	423	Ponomarenko, A.	BIOL	134
Pinder, T.A.	CHED	97	Plested, A.	COMP	23	Pons, T.	COLL	526
Pinero Cruz, D.M.	INOR	43	Pletz, J.	CATL	159	Pons, T.	COLL	610
Pines, D.	PHYS	93	Plewa, M.J.	ENVR	746	Pons, T.	COLL	686
Pines, D.	PHYS	377	Pleyne, D.P.	CHAL	28	Ponseca, C.	PMSE	238
Pines, D.	PHYS	387	Plisson, F.	CINF	6	Ponte, J.F.	MEDI	363
Pines, D.	PHYS	461	Ploeger, R.	POLY	99	Ponte, M.A.	AGRO	382
Pines, E.	PHYS	93	Plonka, W.	AGRO	86	Ponte, M.	AGRO	115
Pines, E.	PHYS	324	Plosz, B.	ENVR	786	Ponte, M.	AGRO	116
Pines, E.	PHYS	377	Plummer, C.	MEDI	311	Ponte, M.	AGRO	290
Pines, E.	PHYS	387	Plummer, K.	CHED	98	Ponting, D.J.	CINF	124
Pines, E.	PHYS	461	Plummer, R.E.	AGRO	297	Ponto, B.	COLL	559
Pines, E.	PHYS	464	Plummer, S.V.	YCC	17	Pookot, D.	MEDI	26
Ping, J.	COLL	615	Poater, A.	CATL	517	Pool, E.	BIOL	223
Ping, K.	BIOL	255	Poater, A.	INOR	235	Poorteman, M.	PMSE	618
Ping, K.	CATL	202	Poater, A.	ORGN	530	Pope, D.	NUCL	64
Ping, Y.	COMP	7	Poater, J.	COMP	290	Popelka-Filcoff, R.S.	NUCL	45
Pingali, S.	CELL	9	Poater, J.	ORGN	243	Pophristic, V.	COMP	388
Pingali, S.	CELL	10	Poater, J.	ORGN	530	Pophristic, V.	COMP	395
Pingali, S.	CELL	13	Podá, A.R.	COLL	269	Pophristic, V.	COMP	417
Pingitore, A.T.	PMSE	422	Podgoriski, M.	POLY	279	Poplawsky, J.	GEOC	37
Pinheiro, P.	MEDI	157	Podkolzin, S.G.	CATL	356	Popmintchev, T.	PHYS	339
Pink, M.	INOR	343	Podos, S.D.	MEDI	261	Popolow, J.D.	CHED	195
Pink, M.	INOR	542	Poe, M.M.	MEDI	232	Popov, D.	PHYS	303
Pink, M.	INOR	543	Poeta, M.D.	MEDI	130	Popov, I.A.	ENFL	558
Pink, M.	INOR	594	Poges, S.	INOR	33	Popov, I.A.	NUCL	81

Popova, M.	COMP	95	Powles, S.	AGRO	106	Priyadarshana, G.	AGRO	243
Popova, M.	COMP	136	Pozdin, V.	ANYL	328	Priyadarshini, P.	CATL	422
Popovic, J.	AGRO	271	Poznik, M.	ORGN	55	Priyakumar, U.	COMP	247
Popp, J.	ANYL	360	Prabhakar, P.	CARB	93	Priyakumar, U.	COMP	578
Porch, A.	PHYS	365	Prabhakaran, A.	ANYL	514	Pracopio, L.	PMSE	798
Porcheddu, A.	ORGN	214	Prabhakaran, V.	ANYL	82	Pracopio, N.	ANYL	486
Porco, J.A.	COMSCI	8	Prabhakaran, V.	ANYL	85	Proffitt, C.	PHYS	195
Porco, J.A.	ORGN	335	Prabhakaran, V.	ANYL	86	Progyateg, C.	PMSE	25
Porco, J.A.	ORGN	398	Prabhakaran, V.	ANYL	528	Progyateg, C.	PMSE	215
Porco, J.A.	ORGN	479	Prabhakaran, V.	ENFL	127	Progyateg, C.	POLY	158
Porco, J.A.	ORGN	525	Prabhu, V.	PMSE	11	Proia, T.	MEDI	19
Porco, J.A.	ORGN	652	Pradhan, N.	COLL	369	Prokopchuk, D.E.	INOR	337
Porfyraakis, K.	COLL	445	Pradhan, S.	COLL	711	Promarak, V.	INOR	673
Poroikov, V.	CINF	59	Pradhan, S.	ENFL	448	Pronin, D.	AGFD	145
Poroikov, V.	CINF	139	Pradhan, S.	PMSE	718	Proppe, J.	INOR	354
Poroikov, V.	CINF	160	Pradhan, T.	ORGN	348	Proppe, J.	ORGN	193
Poroikov, V.	COMP	151	Pradhan-Bhatt, S.	POLY	481	Proppe, J.	PHYS	234
Poroikov, V.	COMP	348	Pradedel, G.	INOR	234	Proserpio, D.M.	ORGN	534
Poroikov, V.	MEDI	401	Praikaew, P.	INOR	701	Prosser, S.	BIOL	28
Poroikov, V.	MEDI	402	Prajapati, N.	MEDI	156	Prostredny, M.	PMSE	281
Poroikov, V.	MEDI	452	Prakash, S.G.	CATL	324	Protasiewicz, J.D.	INOR	319
Porri, A.	AGRO	106	Prakash, S.G.	ENFL	70	Provazza, J.A.	PHYS	422
Portehault, D.	INOR	410	Prakash, S.G.	ENFL	100	Provencher, B.	CHED	56
Portelinha, J.	BIOL	65	Prakash, S.G.	I&E	16	Provencher, B.	CHED	358
Portelinha, J.	BIOL	295	Prakash, S.G.	ORGN	9	Provencher, B.A.	MEDI	162
Portelinha, J.	MEDI	167	Prakash, S.G.	ORGN	190	Prucker, O.	PMSE	181
Porter, A.G.	COLL	446	Prakash, S.G.	ORGN	330	Prucker, O.	PMSE	186
Porter, D.	AGRO	49	Prakash, S.G.	ORGN	606	Prucker, O.	POLY	407
Porter, I.J.	PHYS	221	Prakash, S.G.	ORGN	609	Prucker, O.	POLY	483
Porter, M.	POLY	12	Prakash, S.G.	ORGN	611	Pruden, A.	ENVR	149
Porter, W.J.	MEDI	330	Prakash, S.G.	ORGN	613	Prudhomme, R.K.	COLL	630
Porterfield, D.R.	NUCL	65	Pralle, A.	COLL	702	Prudhomme, R.K.	COLL	783
Porterfield, D.R.	NUCL	66	Pramanik, A.	INOR	463	Prueger, J.H.	AGRO	232
Porterfield, D.R.	NUCL	67	Pramanik, A.	INOR	466	Pruitt, B.	COLL	384
Porterfield, D.R.	NUCL	72	Pramanik, C.	COLL	410	Pruitt, E.	ENVR	491
Porterfield, J.	PMSE	783	Pramanik, C.	PMSE	251	Prunotto, A.	COMP	253
Porterfield, W.B.	BIOL	292	Pramanik, C.	POLY	468	Pruski, M.	CATL	12
Portinha, D.	PMSE	711	Pramanik, S.	COLL	769	Prusnick, T.	AGRO	259
Portinha, D.	POLY	299	Prasse, C.	ENVR	525	Pruteanu, L.L.	MEDI	242
Portis, B.	INOR	760	Prather, K.V.	INOR	692	Pruyn, T.	POLY	606
Posey, N.D.	POLY	487	Pratt, J.K.	INOR	22	Pryamitsyn, V.	PMSE	245
Pospisil, M.	CELL	55	Praveschotunint, P.	MEDI	127	Prydderch, H.	PMSE	56
Pospiskova, K.	BIOL	67	Preciado, N.I.	BIOL	127	Prydderch, H.	PMSE	129
Post, A.	POLY	67	Predota, M.	CHED	347	Prydderch, H.	PMSE	341
Post, M.R.	BIOL	158	Preheim, S.	GEOC	29	Prydderch, H.	PMSE	419
Post, R.	ENVR	327	Prehn Jr., F.	ENVR	327	Prydderch, H.	PMSE	420
Posthuma-Adams, E.	ORGN	601	Premalal, T.	POLY	351	Prydderch, H.	PMSE	420
Post-Munson, D.	CHED	28	Premalal, T.	CATL	350	Pryor, E.M.	CHAS	6
Potemkin, I.I.	MEDI	50	Premalal, T.	CATL	441	Pryor, E.M.	CHAS	7
Pothecary, M.	POLY	316	Premalal, T.	CATL	448	Pryor, E.M.	CHAS	10
Pothoof, J.	POLY	137	Premnauth, G.	TOXI	74	Pryor, E.M.	CHAS	11
Pothukuchy, A.	ENVR	754	Prendergast, D.	TOXI	74	Pryor, E.M.	CHAS	12
Pothukuchy, A.	BIOL	96	Prendergast, D.	CATL	261	Pryor, E.M.	CHAS	12
Pothupitiya, J.U.	BIOL	96	Prendergast, D.	PMSE	177	Pryor, E.M.	CHAS	42
Pothupitiya, J.U.	CATL	341	Prendergast, D.	PMSE	204	Pryor, E.M.	CHAS	44
Pothupitiya, J.U.	POLY	324	Prendergast, D.	PRES	11	Pryor, E.M.	CHAS	46
Pothupitiya, J.U.	POLY	337	Prentis, L.E.	COMP	386	Pryor, E.M.	CHAS	48
Potier, Y.	CINF	73	Prescher, J.A.	BIOL	120	Pschenitzka, M.	CATL	190
Potin, D.	MEDI	10	Prescher, J.A.	BIOL	292	Pu, K.	COLL	461
Potjewyd, F.M.	MEDI	149	Press, E.	BIOL	292	Pu, L.	CATL	519
Potocny, A.M.	INOR	573	Press, L.	POLY	35	Pu, L.	CARB	71
Potratz, J.	INOR	573	Pressman, P.	INOR	597	Pu, L.	CATL	519
Potter, A.	CHED	15	Pressman, P.	AGFD	47	Pu, Q.	MEDI	24
Potter, M.	CHED	5	Preston, D.	ANYL	469	Pu, Y.	CATL	491
Potter, M.	CATL	84	Preston, C.	AGRO	72	Puagsantia, K.	ENVR	837
Potter, P.	ENVR	355	Preston, J.P.	AGRO	205	Puangpjoy, P.	COLL	260
Potter, T.	ORGN	117	Preston, J.P.	CHAS	51	Puchlopek-Dermenci, A.L.	ORGN	44
Potterton, A.	MEDI	309	Prestwich, E.G.	TOXI	65	Pudel, F.	AGFD	44
Potyrailo, R.A.	ANYL	368	Prestwich, E.G.	TOXI	67	Puerto, M.	COLL	799
Poudel, S.	CATL	483	Preto, C.	PMSE	358	Puerto, M.	ENFL	52
Poupardin, O.	MEDI	10	Previtali, V.	MEDI	211	Pugh, C.	MEDI	115
Pour, M.	CELL	28	Prezhdo, O.V.	COMP	201	Puglia, M.K.	COLL	305
Pourghasemi-Lati, M.	ORGN	184	Prezhdo, O.V.	COMP	442	Puillet, M.	INOR	92
Pourmand, A.	ANYL	292	Prezhdo, O.V.	PHYS	67	Pujari, S.S.	TOXI	78
Poutrel, Q.A.	POLY	52	Pribut, N.	AGRO	87	Pukclai, P.	AGRO	193
Pouvreau, M.	AGRO	87	Pribut, N.	AGRO	87	Pulici, M.	MEDI	365
Poveda, R.R.	INOR	355	Pribyl, J.R.	CHED	367	Pulickel, A.M.	ENVR	335
Povnitsa, O.	CHED	308	Pribyl, J.R.	CHED	433	Pulickel, A.M.	INOR	304
Powell, B.	MEDI	402	Pribyl, J.	PMSE	70	Pulikkal, V.F.	ENVR	189
Powell, B.	CHED	50	Price, B.A.	POLY	100	Pulkoski-Gross, M.	CHED	176
Powell, B.	CHED	171	Price, D.	MEDI	151	Pullen, M.G.	PHYS	207
Powell, B.	INOR	568	Price, H.	ANYL	145	Pulliam, C.	CHED	439
Powell, B.A.	NUCL	32	Price, P.	CHED	219	Pullman, D.P.	COLL	239
Powell, B.A.	NUCL	50	Price, P.	AGRO	28	Pullman, D.P.	COLL	282
Powell, C.	ENVR	493	Prieto, C.	AGRO	363	Pullman, D.P.	COLL	505
Powell, D.R.	INOR	705	Prieto, C.	AGFD	344	Punihaole, D.	ANYL	356
Powell, D.R.	INOR	706	Prieto, J.A.	ORGN	669	Punihaole, D.	ANYL	403
Powells, G.	AGRO	341	Prigiobbe, V.	ENVR	132	Punihaole, D.	CHED	362
Power, C.	PHYS	136	Prigiobbe, V.	ENVR	557	Pupo, G.	ORGN	358
Powers, A.	COLL	447	Prigiobbe, V.	GEOC	15	Purakattle, B.	MEDI	24
Powers, C.	PHYS	81	Primera-Pedroza, O.M.	ANYL	246	Purasinhala, K.	AGRO	242
Powers, D.C.	PHYS	81	Primus Dass, K.	BIOL	199	Purcell, Z.F.	TOXI	2
Powers, D.C.	CATL	90	Prince, B.	BIOL	199	Purdy, A.P.	INOR	456
Powers, D.C.	CATL	494	Pring, A.	MEDI	70	Purgett, T.	ORGN	525
Powers, D.C.	INOR	617	Prisk, T.	NUCL	45	Puri, M.	BIOL	124
Powers, J.	CHED	265	Pritchard, C.C.	GEOC	4	Puri, S.	COLL	21
Powers-Luhn, J.R.	NUCL	23	Pritchard, C.C.	ENVR	428	Purmal, A.	CHED	257
Powers-Luhn, J.R.	NUCL	84	Pritchard, C.C.	ENVR	655			
Powles, S.	AGRO	68	Priyadarshana, G.	AGRO	242			

Purohit, T.	MEDI	84	Qin, W.	ANYL	420	Radford, M.	POLY	95
Purvis, L.	PHYS	449	Qing, F.	ORGN	1	Radler, J.J.	PHYS	120
Pushalkar, S.	ORGN	446	Qing, M.	AGFD	69	Radulescu, A.	POLY	316
Pushkarev, V.	POLY	524	Qing, X.	PMSE	670	Raduly, L.	MEDI	242
Puthongkham, P.	INOR	267	Qing, Z.	PMSE	804	Radzinski, S.	POLY	262
Putin, E.	COMP	96	Qiu, F.	COLL	616	Rae, I.	HIST	29
Putkey, J.A.	COMP	566	Qiu, F.	ENFL	396	Raeber, A.E.	COMP	472
Putnam, S.	ENVR	281	Qiu, G.	ENVR	645	Rafatijo, H.	PHYS	171
Putnam, S.	ENVR	667	Qiu, G.	ENVR	649	Rafatijo, H.	PHYS	181
Putnins, M.	BIOL	314	Qiu, G.	ENVR	650	Ragae, S.	AGFD	94
Putri Ahmad Sabri, M.	AGFD	45	Qiu, H.	PMSE	804	Ragains, J.R.	CARB	120
Puzas, J.	INOR	210	Qiu, J.	AGRO	105	Ragauskas, A.	CELL	13
Pyles, C.G.	PHYS	380	Qiu, L.	ENVR	707	Rager, T.J.	POLY	345
Pyles, H.	COLL	672	Qiu, N.	PMSE	756	Raghav, J.	MEDI	61
Pyles, S.	AGRO	62	Qiu, S.	AGRO	321	Raghavachari, K.	COLL	333
Pyser, J.	ORGN	381	Qiu, S.	ENVR	73	Raghavachari, K.	COMP	168
Pyun, J.	PMSE	100	Qiu, T.A.	PMSE	170	Raghavachari, K.	COMP	492
Pyzer-Knapp, E.	COMP	43	Qiu, Y.	POLY	551	Raghavachari, K.	PHYS	480
Pyzer-Knapp, E.	COMP	461	Qiu, Z.	INOR	498	Raghavan, S.R.	COLL	5
Qadri, S.	COLL	702	Qiu, Z.	CHED	255	Raghavan, S.	BIOL	200
Qafoku, N.P.	NUCL	37	Qu, F.	ENVR	212	Raghuathan, R.	ENFL	488
Qamar, A.Z.	COLL	335	Qu, G.	ENVR	694	Raghuvanshi, K.	ORGN	261
Qanbarzadeh, M.	ENVR	110	Qu, G.	ENVR	695	Raghuvanshi, K.	ORGN	408
Qavi, S.	PMSE	141	Qu, J.	ENVR	460	Ragoussi, M.	NUCL	27
Qavi, S.	PMSE	535	Qu, Z.	COLL	104	Ragsdale, S.W.	INOR	392
Qavi, S.	POLY	191	Qu, Z.	MEDI	99	Rahaman, M.M.	ORGN	108
Qi, G.	CELL	72	Quadery, T.M.	MEDI	185	Rahaman, S.	ENVR	23
Qi, H.J.	ANYL	323	Quadir, M.A.	COLL	432	Rahaman, S.	ENVR	220
Qi, H.J.	PMSE	810	Quadir, M.A.	COLL	466	Rahaman, S.	ENVR	593
Qi, H.	COMP	259	Quah, S.P.	PMSE	564	Raheem, I.T.	MEDI	82
Qi, H.	INOR	398	Quan, Q.	COLL	375	Rahimi, N.	ANYL	421
Qi, L.	MEDI	411	Quan, X.	CATL	185	Rahm, M.	ORGN	190
Qi, L.	MEDI	425	Quan, X.	ENVR	122	Rahm, M.	ORGN	443
Qi, M.	INOR	90	Quan, X.	ENVR	193	Rahm, M.	PHYS	366
Qi, M.	INOR	97	Quan, Z.	ENFL	345	Rahman, A.	ANYL	183
Qi, M.	PMSE	58	Quardokus, R.	COLL	291	Rahman, A.	ANYL	184
Qi, S.	MEDI	398	Quardokus, R.	COLL	315	Rahman, A.	ANYL	185
Qi, T.	I&E	45	Quattrucci, J.G.	CHED	410	Rahman, A.	ANYL	186
Qi, W.	CATL	496	Quattrucci, J.G.	CHED	428	Rahman, A.K.	ANYL	186
Qi, W.	CATL	497	Que, E.L.	BIOL	16	Rahman, E.	ENVR	457
Qi, W.	COLL	342	Que, W.	ENFL	22	Rahman, M.	COLL	204
Qi, W.	MEDI	281	Queiroz, A.C.	MEDI	334	Rahman, M.M.	INOR	34
Qi, W.	PMSE	439	Quenzer, J.L.	INOR	614	Rahman, M.	POLY	459
Qi, X.	ENVR	368	Quesada, D.	COLL	111	Rahman, M.	ORGN	659
Qi, Y.	ENFL	261	Quesada, J.	BIOL	44	Rahmat, J.	COLL	780
Qi, Y.	PHYS	287	Quesada, O.	PROF	27	Rahnamoun, A.	ANYL	394
Qian, C.	MEDI	448	Quidant, R.	ANYL	256	Rai, B.K.	COMP	140
Qian, G.	PMSE	422	Quidant, R.	COLL	362	Rai, G.	MEDI	302
Qian, H.	CATL	346	Quiles, E.	PMSE	446	Rai, N.	CATL	337
Qian, H.	CATL	348	Quinn, A.	ANYL	325	Rai, R.	PMSE	779
Qian, L.	ENVR	766	Quinn, J.	POLY	131	Rai, S.	MEDI	155
Qian, L.	CATL	239	Quinn, L.	CHED	273	Raiman, S.S.	I&E	11
Qian, M.C.	AGFD	129	Quiñones-Ruiz, T.	ENVR	54	Raiman, S.S.	I&E	9
Qian, W.	ANYL	506	Quinon, J.	COLL	503	Raiman, S.S.	I&E	14
Qian, W.	COLL	285	Quint, M.S.	NUCL	23	Raines, L.	CHED	7
Qian, X.	ENVR	143	Quintana, R.	POLY	256	Raines, R.T.	BIOL	222
Qian, Y.	CHED	379	Quintanilla, M.	COLL	364	Raines, R.T.	BIOL	234
Qiang, X.	POLY	278	Quintas Sánchez, E.	PHYS	28	Raines, R.T.	ENFL	359
Qiang, Z.	PMSE	378	Quintas Sánchez, E.	PHYS	176	Raines, R.T.	MEDI	122
Qiao, B.	PMSE	249	Quintero, T.	CHED	272	Raines, R.T.	ORGN	247
Qiao, B.	PMSE	40	Quinton, M.	MEDI	14	Raines, R.T.	PMSE	820
Qiao, B.	POLY	42	Quirk, A.	ENVR	11	Rainone, G.	CHED	302
Qiao, L.	ENVR	636	Quitevis, E.L.	ANYL	151	Rainwater, L.	ORGN	417
Qiao, M.	PMSE	802	Quitevis, E.L.	ANYL	528	Rais, R.	MEDI	139
Qiao, W.	COLL	469	Ra, S.	COMP	140	Raiteri, P.	GEOC	28
Qiao, Y.	POLY	281	Raab, J.	INOR	506	Raj, A.	BIOL	164
Qiao, Y.	INOR	426	Rabalais, L.K.	TOXI	44	Raja, K.S.	MEDI	246
Qiao, Z.	PMSE	576	Rabalski, I.	AGFD	94	Raja, R.	CATL	84
Qiao, Z.	I&E	52	Rabani, E.	COMP	5	Raja, R.	CATL	114
Qie, Y.	COLL	130	Rabani, E.	COMP	171	Raja, R.	CATL	520
Qin, C.	ENFL	245	Rabani, E.	PHYS	306	Rajabi, N.	MEDI	209
Qin, C.	ENVR	469	Raber, M.	INOR	634	Rajabi, N.	MEDI	220
Qin, C.	INOR	50	Rabinovich, A.	ENVR	92	Rajabimoghadam, K.	INOR	453
Qin, D.	COLL	106	Rabinovich, A.	ENVR	97	Rajagopal, R.	ENVR	593
Qin, D.	COLL	151	Rabinovich, A.	ENVR	620	Rajamani, R.	MEDI	51
Qin, F.	ENFL	89	Rabinovich, D.	CHED	89	Rajan, A.	ANYL	330
Qin, H.	ENFL	277	Rabinovich, D.	HIST	14	Rajan, K.	CELL	19
Qin, J.	POLY	188	Rabinowitz, Z.	PMSE	446	Rajan, R.	ENVR	836
Qin, K.	POLY	42	Rabitz, H.A.	COMP	480	Rajapakse, R.	CATL	146
Qin, L.	ENFL	56	Rabitz, H.A.	PHYS	200	Rajapaksha, R.D.	COLL	682
Qin, L.	ENFL	457	Rabuffetti, F.A.	INOR	158	Rajappan, M.	PHYS	593
Qin, L.	INOR	162	Rabung, T.	NUCL	30	Rajasekhar, J.	MEDI	65
Qin, M.	ANYL	323	Rachford, A.	ORGN	37	Rajee, A.O.	INOR	642
Qin, P.	INOR	290	Racicot, J.	ANYL	130	Rajee, A.O.	INOR	513
Qin, P.	INOR	296	Racicot, J.	ANYL	133	Rajeshwar, R.	COMP	466
Qin, P.	INOR	590	Racicot, K.	AGFD	277	Rajkumar, S.	COLL	706
Qin, R.	ANYL	420	Racicot, K.	AGFD	310	Rajora, M.	COLL	60
Qin, S.	PMSE	254	Rackley, B.	CHED	294	Rajora, M.	COLL	166
Qin, S.	PMSE	256	Rackov, C.	CHED	71	Rajput, N.N.	ENFL	471
Qin, S.	CELL	28	Rackov, C.	ENVR	572	Rajput, S.	MEDI	156
Qin, S.	PMSE	543	Radak, B.	COMP	256	Rak, M.	ORGN	217
Qin, S.	PMSE	730	Radak, B.	COMP	464	Rakariyatham, K.	AGFD	193
Qin, S.	POLY	168	Radchenko, V.	NUCL	12	Ram, F.	PMSE	794
Qin, T.	ORGN	479	Radef, A.Y.	ENVR	704	Ramachandriya, K.	AGRO	372

Ramadan, S.	CARB	56	Rapacioli, M.	PHYS	399	Raynie, D.E.	ANYL	312
Ramakrishna, S.	PHYS	37	Rappaport, A.	CHED	426	Raynie, D.E.	CATL	323
Ramakrishnan, R.	PMSE	638	Raptis, R.G.	INOR	430	Raynie, D.E.	ENFL	360
Ramakrishnan, T.S.	COLL	558	Raptis, R.G.	INOR	641	Raz - Nahum, T.	PHYS	35
Ramakrishnan, V.	PMSE	220	Rarey, M.	COMP	245	Raz - Nahum, T.	PHYS	394
Ramamurthi, A.	COLL	235	Rasaiah, J.C.	COMP	454	Read, J.A.	ENFL	288
Ramamurthi, K.S.	PMSE	755	Rasapalli, S.	COMP	384	Read, K.	MEDI	206
Raman, V.	ORGN	296	Rasapalli, S.	CARB	67	Read De Alaniz, J.	POLY	124
Ramanarayanan, T.S.	AGRO	62	Rasapalli, S.	MEDI	347	Reagan, P.	COMP	417
Ramanarayanan, T.S.	AGRO	92	Rasapalli, S.	MEDI	350	Reale, E.	ENVR	458
Ramanathan, R.	ANYL	281	Raseek, N.	BIOL	262	Reardon, D.	POLY	512
Ramanjulu, M.	MEDI	65	Rashid, F.	MEDI	89	Rearick, M.	NUCL	20
Ramasamy, K.K.	CATL	361	Rashid, Z.	PMSE	386	Reba, M.	AGRO	45
Ramasamy, K.K.	CATL	402	Rasmussen, S.C.	HIST	23	Rebecca, W.	ANYL	240
Ramaseshan, M.	MEDI	151	Rasool, M.	ENFL	349	Rebmann, E.	CATL	485
Ramasubbu, A.	PMSE	486	Rasoulpour, R.	AGRO	4	Reboul, J.	CATL	380
Ramatou, L.	PMSE	730	Rasovic, I.	COLL	445	Reboul, M.	COMP	28
Ramberan, S.	CARB	45	Rastogi, S.K.	INOR	385	Rech, J.J.	PMSE	331
Ramdihal, J.D.	CHED	327	Rastrelli, F.	COMP	49	Records, W.	ENFL	513
Ramella, D.	MEDI	362	Rasul, G.	ORGN	606	Rectenwald, J.	MEDI	138
Ramer, G.	ANYL	542	Rasulev, B.	CINF	45	Reda, A.M.	MEDI	250
Ramesh, U.	COLL	442	Rasulev, B.	COMP	559	Redden, J.	CHED	309
Ramezanghorbani, F.	COMP	358	Rasulev, B.	TOXI	89	Redden, P.A.	WCC	29
Ramezaniankeikanloo, S.	ENVR	255	Ratanatawanate, C.	ENVR	561	Reddu, V.	ENFL	509
Rami, H.	MEDI	332	Ratanatawanate, C.	POLY	522	Reddy, J.	MEDI	425
Ramiah, A.	CARB	93	Ratchford, D.C.	PMSE	476	Reddy, J.	MEDI	426
Ramineni, C.	BIOL	57	Ratchford, D.C.	PMSE	748	Reddy, P.R.	CATL	394
Ramirez, C.	ORGN	185	Ratcliff, T.	COMP	272	Reddy, P.	COLL	112
Ramirez, D.	COMP	286	Rath, N.P.	ORGN	629	Reddy, S.	COMP	176
Ramirez, D.	COMP	287	Rathbun, C.M.	BIOL	292	Reddy, V.	MEDI	367
Ramirez, D.H.	BIOL	232	Rathi, P.C.	CINF	125	Reddy, Y.	COLL	96
Ramirez, G.	ENVR	148	Rathjens, H.	AGRO	90	Redeker, N.	INOR	303
Ramirez, L.	BIOL	60	Rathjens, H.	AGRO	365	Redekop, E.	CATL	390
Ramirez-Cuesta, A.	CATL	115	Rathnaweera, D.N.	AGRO	242	Redfern, L.	ORGN	422
Ramirez Medrano, L.	CHED	226	Rathnayake, D.	CATL	314	Redfield, A.G.	BIOL	312
Ramirez Medrano, L.	CHED	228	Rathnayake, D.	CATL	440	Redhwi, H.H.	ENFL	306
Ramirez Reina, T.	ENVR	228	Rathnayake, D.	INOR	170	Redlich, B.	PHYS	367
Ramirez Reina, T.	ENVR	300	Rathnayake, H.P.	PMSE	509	Redman, E.	ORGN	487
Ramirez Torres, J.	CHED	213	Rathnayake, H.P.	PMSE	532	Redman, R.	CARB	57
Ramlogan, M.	ENVR	92	Rathnayake, H.P.	PMSE	542	Redmond, G.	COLL	140
Ramlogan, M.	ENVR	620	Rathnayake, H.P.	PMSE	705	Redmond, J.	MEDI	271
Rammohan, A.	COMP	582	Ratna, B.	ANYL	224	Reduzzi, M.	PHYS	13
Ramos, D.	ANYL	245	Ratnaweera, H.	COLL	12	Reece, C.	CATL	390
Ramos, M.	PMSE	335	Ratner, B.D.	POLY	583	Reed, D.	ENFL	165
Ramos, V.C.	ENVR	648	Ratner, M.A.	COMP	3	Reed, D.T.	GEOC	57
Ramos-Alvarado, B.	ENVR	527	Ratner, M.A.	PHYS	267	Reed, D.T.	NUCL	31
Ramos-Garces, M.	INOR	55	Ratni, H.	MEDI	286	Reed, D.T.	NUCL	33
Ramos-Garces, M.	INOR	181	Rattanaudom, P.	ENFL	270	Reed, D.T.	NUCL	44
Ramos-Garces, M.	INOR	488	Rau, S.	ENFL	544	Reed, D.T.	NUCL	46
Ramprasad, R.	COMP	501	Raubenolt, B.	COMP	382	Reed, D.T.	NUCL	70
Rampulla, D.	COLL	146	Rauch, M.	INOR	279	Reed, D.T.	NUCL	71
Ramsay, I.	NUCL	16	Rault, L.	AGRO	151	Reed, E.	AGRO	207
Ramsey, J.D.	COLL	417	Rauscher, S.	COMP	184	Reed, G.	COLL	78
Ramsey, J.D.	COLL	666	Raut, C.	PMSE	477	Reed, N.W.	POLY	140
Ramsey, S.	COMP	31	Raut, C.	PMSE	814	Reed, N.	ORGN	25
Ramsey, S.	COMP	339	Rautenbach, D.L.	COLL	42	Reed, T.	INOR	437
Ramstrom, O.	CATL	212	Raval, Y.	ANYL	411	Reese, C.J.	POLY	351
Ran, C.	NUCL	13	Ravenscroft, N.	CARB	99	Reeve, H.	CATL	498
Rana, G.	ANYL	437	Ravi, V.	COLL	360	Reeves, W.	AGRO	265
Rana, M.	BIOL	8	Ravichandran, K.	BIOL	142	Regalbutto, J.R.	CATL	501
Rana, S.	ANYL	25	Ravier, P.	AGRO	343	Regan, C.P.	MEDI	279
Ranasinghe, C.	BIOL	165	Ravikrishnan, A.	COLL	346	Regan, H.	MEDI	279
Ranasinghe, M.I.	COLL	682	Ravikrishnan, A.	PMSE	632	Regan, M.	MEDI	437
Ranasinghe, P.	TOXI	80	Ravikrishnan, A.	POLY	481	Regasini, L.O.	CINF	24
Randilgama, S.P.	CATL	146	Ravikrishnan, A.	POLY	482	Regel, B.	CHED	76
Randolph, J.T.	MEDI	369	Ravishankar, P.	PMSE	522	Regel, B.	CHED	391
Ranga, J.	CHED	8	Rawlings, A.	INOR	576	Register, T.	AGFD	316
Ranganathan, S.V.	BIOL	290	Rawlins, C.	CHED	127	Regmi, B.P.	ANYL	466
Rangarajan, S.	CATL	228	Rawstron, E.	POLY	109	Reguera, J.	COLL	28
Rangarajan, S.	COMP	97	Ray, D.	COMP	351	Reguera, R.	ORGN	367
Rangaswamy, S.	PMSE	486	Ray, H.	ENVR	34	Rehak, P.	COLL	744
Rangel, E.	AGRO	254	Ray, K.K.	COLL	326	Rehak, P.	MEDI	241
Rangel-López, R.	COLL	311	Ray, K.K.	COLL	557	Rehan, M.	AGFD	139
Rangnekar, E.P.	CHED	35	Ray, K.K.	COLL	727	Rehberg, R.	AGRO	318
Ranjan, A.	PMSE	636	Ray, K.G.	PMSE	23	Rehr, J.J.	COMP	128
Rank, D.N.	AGFD	263	Ray, M.	COLL	129	Reibach, P.	AGRO	14
Rannard, S.	COLL	621	Ray, M.	COLL	270	Reibach, P.	AGRO	375
Rannard, S.	COLL	784	Ray, M.	COLL	536	Reices, C.	COMP	328
Rannard, S.	PMSE	749	Ray, M.	COLL	774	Reich, D.	ORGN	70
Rannard, S.	POLY	230	Ray, P.C.	ENVR	194	Reich, R.	CATL	210
Rannard, S.	POLY	280	Ray, P.C.	INOR	463	Reichert, D.L.	POLY	456
Rannard, S.	POLY	306	Ray, P.C.	INOR	466	Reichl, K.	ORGN	479
Rannard, S.	POLY	312	Ray, P.	ENVR	182	Reichman, D.R.	PHYS	330
Ranneh, A.	COLL	533	Ray, S.	COLL	637	Reichmanis, E.	MPPG	47
Ransom, T.	PMSE	727	Ray, S.C.	MEDI	53	Reichmanis, E.	POLY	106
Rantalainen, K.	CARB	73	Rayamajhi, S.	COLL	216	Reichmanis, E.	WCC	13
Ranville, J.F.	ENVR	73	Rayder, T.	CHED	244	Reid, B.	INOR	241
Rao, G.	INOR	233	Rayder, T.	INOR	17	Reid, C.	BIOL	99
Rao, N.Z.	AGFD	144	Rayder, T.M.	INOR	118	Reid, C.	CARB	1
Rao, R.R.	CATL	143	Raylam, S.	MEDI	427	Reid, C.	CARB	35
Rao, R.R.	CATL	218	Raymond, A.	PHYS	590	Reid, C.	CHED	69
Rao, S.	ENVR	71	Raymond, E.	CHED	350	Reid, E.E.	MEDI	363
Rao, Y.	PHYS	385	Raynaud, J.	INOR	92	Reid, K.	COLL	517
Raooof, A.	MEDI	25	Rayner, G.	POLY	95	Reid, R.C.	MEDI	230

Reid, S.	COLL	140	Reneker, D.H.	PMSE	615	Rice, G.M.	COMP	188
Reid, T.	CATL	308	Renga, J.M.	ORGN	464	Rice, J.E.	PMSE	11
Reiding, K.	ANYL	422	Renna, L.	PMSE	204	Rice, P.J.	AGRO	46
Reidy, K.	POLY	131	Renner, J.	ENFL	372	Rice, P.	COLL	521
Reidy, T.M.	COLL	68	Rennick, G.	AGRO	195	Rich, C.	PHYS	409
Reifenberger, R.G.	CATL	389	Reno, K.	AGFD	102	Rich, D.	I&EC	48
Reigstad, C.S.	PROF	26	Renugopalakrishnan, V.	COMP	11	Richard, A.M.	COMP	333
Reiher, M.	INOR	354	Renye, J.A.	AGFD	140	Richard, A.M.	ENVR	661
Reiher, M.	ORGN	193	Reocreux, R.	COLL	147	Richard, A.	ENVR	115
Reiher, M.	PHYS	234	Repasky, M.	COMP	295	Richard, J.P.	BIOL	93
Reiher, M.	ORGN	302	Repasky, M.	COMP	449	Richard, R.M.	COMP	549
Reilly, A.	CHED	218	Repasky, M.	COMP	450	Richards, D.	ANYL	234
Reilly, D.R.	NUCL	47	Repasky, M.	COMP	527	Richards, J.	AGRO	201
Reilly, G.C.	PMSE	583	Requejo Roque, K.I.	COLL	244	Richards, J.	AGRO	204
Reilly, G.C.	PMSE	587	Rering, C.C.	AGRO	214	Richards, M.	POLY	450
Reilly, J.H.	AGFD	324	Rering, C.C.	AGRO	217	Richards, S.	COLL	687
Reilly, L.	CHED	162	Rering, C.C.	AGRO	274	Richards, S.	PMSE	333
Reilly, M.	MEDI	26	Resasco, D.E.	CATL	484	Richards, S.	POLY	128
Reilly, N.	PHYS	249	Reschetilowski, W.	CATL	55	Richardson, A.	ORGN	49
Reineke, T.M.	POLY	125	Resendez, A.	ANYL	414	Richardson, C.	CHED	142
Reineke, T.M.	POLY	485	Resendez, A.	MEDI	88	Richardson, C.E.	INOR	769
Reiner, J.	COLL	507	Ressler, V.	BIOL	234	Richardson, J.	ENVR	509
Reinhard, B.M.	ANYL	6	Reutelingsperger, C.	MEDI	100	Richardson, J.J.	POLY	131
Reinhard, B.M.	ANYL	264	Rew, Y.	MEDI	21	Richardson, L.L.	AGRO	57
Reinhard, B.M.	PHYS	504	Rewatkar, P.	INOR	748	Richardson, R.A.	COMP	47
Reinhard, B.M.	POLY	460	Rey, J.	AGRO	208	Richardson, S.	ENVR	200
Reinhard, C.	GEOC	43	Reyes, A.	BIOL	93	Richardson, S.	ENVR	390
Reinhard, M.	PHYS	111	Reyes, E.D.	CHED	258	Richardson, S.D.	ENVR	280
Reinhardt, C.	COLL	801	Reyes, E.D.	CHED	310	Richardson, T.	ENVR	321
Reinhardt, C.	PMSE	332	Reyes Morales, J.	ANYL	119	Richardson, T.	ENVR	444
Reinhardt, P.A.	CHAS	19	Reyes-Rangel, G.	ORGN	209	Riche, C.	INOR	581
Reinhardt, P.A.	CHAS	35	Reymond, J.	CINF	23	Richert, L.	ORGN	631
Reinheimer, E.	CHED	43	Reynaud, S.	POLY	173	Richert, S.	INOR	127
Reinhold, V.	CARB	114	Reynaud, S.	POLY	277	Riches, J.	ANYL	240
Reinhold, V.N.	CARB	25	Reynaud, S.	POLY	298	Richeson, D.S.	INOR	233
Reinhold, V.N.	CARB	70	Reyniers, M.	ENFL	102	Richman, S.	BIOL	86
Reinicke, S.	POLY	229	Reynisson, J.	MEDI	11	Richmann, M.K.	GEOC	57
Reis, R.	CARB	112	Reynisson, J.	MEDI	207	Richmann, M.K.	NUCL	33
Reis, R.	CARB	113	Reynolds, D.S.	BIOL	46	Richmann, M.K.	NUCL	46
Reis, R.	COLL	486	Reynolds, J.G.	INOR	355	Richmann, M.K.	NUCL	70
Reis, R.	COLL	570	Reynolds, J.K.	MEDI	346	Richoux, G.	AGRO	127
Reise, F.	CARB	69	Reynolds, J.R.	PMSE	29	Richter, B.E.	ANYL	311
Reisman, L.	POLY	353	Reynolds, J.R.	PMSE	105	Richter, B.E.	ANYL	312
Reisman, S.E.	AGRO	135	Reynolds, J.R.	PMSE	403	Richter, D.	MEDI	282
Reiss, H.	ORGN	587	Reynolds, J.E.	INOR	194	Richter, H.	POLY	162
Reiss, R.	AGRO	271	Reynolds, M.M.	COLL	189	Richter, L.J.	PMSE	657
Reiter, G.	GEOC	4	Reynolds, M.M.	COLL	341	Richter, M.	CINF	158
Reith, H.	MPPG	38	Reynolds, R.	MEDI	114	Richter, M.	MEDI	293
Reitsma, G.	PHYS	15	Reza, M.	ENVR	299	Richtering, W.	PMSE	319
Remacle, F.	ORGN	313	Rezaee, S.	ENFL	52	Rick, S.W.	COMP	382
Remacle, F.	PHYS	72	Rezaei, F.	ENFL	410	Rickard, A.	PMSE	626
Remacle, F.	PHYS	89	Rezaei, F.	ENFL	415	Rickard, M.	AGFD	285
Remacle, F.	PHYS	129	Reznik, S.	WCC	2	Rickard, Z.	COLL	249
Remacle, F.	PHYS	199	Rhaman, M.	INOR	143	Ricke, N.	CATL	213
Remacle, F.	PHYS	201	Rhaman, M.	INOR	505	Ricke, N.	COMP	355
Remacle, F.	PHYS	254	Rhaman, M.	INOR	705	Ricke, N.	COMP	553
Remacle, F.	PHYS	296	Rhaman, M.	INOR	706	Rickershauser, L.	CINF	146
Remacle, F.	PHYS	415	Rhaman, M.	INOR	761	Rickert, K.	BIOL	257
Remaud, G.	ANYL	287	Rheingold, A.L.	ENVR	529	Ricou Hoeffler, P.	PMSE	525
Remond, A.	MEDI	101	Rheingold, A.L.	INOR	27	Ridenour, J.N.	ORGN	147
Rempe, S.L.	MEDI	40	Rheingold, A.L.	INOR	421	Ridge, C.D.	ANYL	107
Rempillo, J.J.	BIOL	85	Rheingold, A.L.	INOR	677	Ridge, C.	CATL	253
Rensen, E.E.	COMP	374	Rho, J.	POLY	185	Ridley, M.K.	GEOC	29
Remsing, R.	COLL	499	Rhoades, A.M.	PMSE	66	Ridolfo, R.	POLY	490
Remsing, R.	GEOC	9	Rhoades, A.M.	PMSE	416	Ridout, M.	BIOL	53
Remsing, R.	POLY	368	Rhoades, A.M.	POLY	167	Riechers, D.E.	AGRO	74
Ren, B.	PHYS	63	Rhoads, W.	ENVR	149	Riedel, R.	PHYS	365
Ren, D.	COMP	520	Rhodes, D.	YCC	10	Rieder, B.	AGRO	305
Ren, F.	COLL	525	Rhodes, G.	ENVR	411	Riegel, S.	CHED	390
Ren, F.	ENFL	10	Rhodes, J.	YCC	10	Rieger, B.	CATL	145
Ren, H.	ANYL	479	Rhodes, J.	MEDI	194	Rieger, B.	CATL	190
Ren, H.	ENVR	768	Rhodes, T.A.	ANYL	39	Riegner, D.E.	NUCL	17
Ren, H.	CATL	285	Rhodes, T.A.	I&EC	39	Riegner, D.E.	NUCL	19
Ren, H.	ENVR	329	Rhiazanova, A.	COLL	69	Riehl, P.S.	ORGN	49
Ren, J.	ENFL	216	Ribas, A.	PHYS	75	Riehl, P.S.	ORGN	356
Ren, J.	I&EC	41	Ribeiro, A.	BIOL	56	Riehm, D.	COLL	5
Ren, L.	ENFL	261	Ribeiro, A.	COLL	570	Riera, L.	INOR	181
Ren, L.	CATL	319	Ribeiro, C.M.	MEDI	118	Riera, M.	COMP	36
Ren, L.	ENFL	161	Ribeiro, F.	CATL	229	Riera, M.	PHYS	352
Ren, S.	ANYL	420	Ribeiro, J.	COMP	273	Riese, M.	BIOL	61
Ren, S.	INOR	189	Ribeiro, R.	PHYS	275	Rietz, A.	MEDI	111
Ren, S.	MEDI	440	Ribeiro, R.	PHYS	276	Rifaie-Graham, O.	POLY	124
Ren, S.	MEDI	441	Ribeiro, R.	PHYS	316	Riggs, D.	AGRO	13
Ren, W.	ENVR	589	Riccardi, C.	COLL	220	Riggs, J.	PHYS	375
Ren, W.	ENFL	166	Riccardi, D.	CINF	65	Rightmire, N.R.	ORGN	213
Ren, X.	ENFL	525	Riccardi, L.	COMP	49	Rijal, H.N.	AGRO	85
Ren, Y.	ENFL	472	Riccardi, M.	ORGN	242	Rikukawa, M.	ENFL	236
Ren, Y.	ENVR	544	Ricci, M.	POLY	162	Rikukawa, M.	PMSE	513
Ren, Y.	PMSE	586	Riccio, J.	ORGN	173	Rikukawa, M.	PMSE	514
Ren, Z.	ENFL	331	Rice, A.J.	CHED	268	Rikukawa, M.	PMSE	519
Renard, P.	CARB	69	Rice, A.J.	ORGN	295	Rikukawa, M.	PMSE	547
Rencher, B.D.	ORGN	674	Rice, C.V.	MEDI	49	Rikukawa, M.	PMSE	573
Rendon, S.	ORGN	65	Rice, C.V.	MEDI	431	Rikukawa, M.	POLY	361
Rendos, A.	COLL	552	Rice, D.	ENVR	521	Rikukawa, M.	POLY	362

Rikukawa, M.	POLY	363	Robb, K.R.	I&EC	8	Rodgers, R.P.	ENFL	155
Riley, D.P.	INOR	217	Robb, M.J.	MPPG	115	Rodgers, R.P.	ENVR	88
Riley, J.	MEDI	206	Robbins, D.	MEDI	70	Rodich, S.	INOR	574
Riley, K.R.	ANYL	96	Robbins, J.	CHED	323	Rodney, S.	AGRO	291
Riley, K.R.	ANYL	512	Roberson, L.B.	YCC	26	Rodriguez Benitez, A.	BIOL	280
Riley, K.R.	ANYL	523	Robert, F.	AGFD	11	Rodriguez, R.	ENVR	148
Rillema, D.	INOR	508	Robert, F.	AGFD	43	Rodrigo, C.	CHAL	25
Rim, G.	ENFL	36	Robert, H.	CHED	66	Rodrigues, D.F.	ENVR	222
Rim, J.	NUCL	65	Robert, L.	PHYS	75	Rodrigues De Almeida, N.	AGRO	84
Rim, J.	NUCL	66	Robert, D.	ENVR	574	Rodriguez, A.	CHED	271
Rim, Y.S.	INOR	579	Roberts, A.	MEDI	434	Rodriguez, A.G.	INOR	452
Rimando, A.M.	AGFD	103	Roberts, A.	COMP	389	Rodriguez, B.	CHED	230
Rimstidt, J.	GEOC	48	Roberts, C.	INOR	694	Rodriguez, C.	CHED	327
Rincon, K.A.	CHED	157	Roberts, C.	ORGN	504	Rodriguez, D.J.	PHYS	245
Rinderspacher, C.B.	COMP	249	Roberts, C.A.	ORGN	527	Rodriguez, E.K.	BIOL	287
Rinderspacher, C.B.	COMP	537	Roberts, D.	ORGN	427	Rodriguez, E.K.	PMSE	424
Rinehart, J.	PMSE	488	Roberts, D.	ORGN	515	Rodriguez, E.K.	POLY	419
Ring, J.R.	CHED	429	Roberts, E.	COLL	418	Rodriguez, G.	PMSE	729
Ring, L.	AGFD	129	Roberts, E.J.	CATL	168	Rodriguez, G.L.	PMSE	406
Ring, S.	AGRO	112	Roberts, E.J.	INOR	31	Rodriguez, J.	ENVR	253
Ringer, J.	AGRO	133	Roberts, E.J.	INOR	581	Rodriguez, J.	CATL	65
Ringsstrand, B.	INOR	577	Roberts, J.	CHAS	5	Rodriguez, L.	COLL	268
Ringuette, A.	INOR	709	Roberts, J.	POLY	524	Rodriguez, N.	INOR	672
Ringuette, A.	POLY	313	Roberts, M.F.	BIOL	312	Rodriguez, R.	CHED	175
Rio, C.	PHYS	572	Roberts, R.W.	BIOL	45	Rodriguez, J.	ANYL	210
Riordan, C.G.	INOR	276	Roberts, S.T.	PHYS	5	Rodriguez-Cabello, J.C.	PMSE	680
Rios-Torres, R.	CATL	520	Roberts, S.T.	PHYS	335	Rodriguez-Calero, G.	PMSE	107
Rios-Torres, R.	ORGN	102	Roberts, T.C.	MEDI	325	Rodriguez-Fernandez, J.	COLL	495
Rios-Torres, R.	ORGN	306	Roberts-Kirchhoff, E.	CHED	167	Rodriguez Granillo, A.	ANYL	560
Rios-Torres, R.	ORGN	620	Robertson, A.	AGRO	277	Rodriguez Lopez, J.	ANYL	375
Rioux, R.M.	CATL	103	Robertson, J.	COMP	106	Rodriguez Lopez, J.	ANYL	384
Rioux, R.M.	CATL	272	Robertson, J.D.	NUCL	3	Rodriguez Lopez, J.	PMSE	175
Rioux, R.M.	CATL	300	Robertson, J.D.	NUCL	20	Rodriguez Loureiro, I.	COLL	646
Riparetti, R.	INOR	194	Robertson, J.D.	POLY	607	Rodriguez-Quijada, C.	COLL	565
Ripka, E.G.	COLL	194	Robertson, K.	BIOL	297	Rodriguez-Reyes, J.C.	COLL	190
Ripka, E.G.	COLL	198	Robertson, L.A.	POLY	434	Rodriguez-Reyes, J.C.	COLL	196
Ripka, E.G.	PHYS	479	Robertson, M.L.	PMSE	250	Rodriguez-Reyes, J.C.	COLL	235
Ripoche, S.	MEDI	20	Robertson, M.L.	POLY	287	Rodriguez-Reyes, J.C.	ENVR	680
Riscoe, A.R.	CATL	11	Robertson, N.J.	POLY	320	Rodriguez-Rivera, G.	PMSE	69
Riscoe, A.R.	CATL	62	Robichaud, D.	CATL	363	Rodriguez-Rivera, N.M.	CHED	321
Riscoe, A.R.	CATL	72	Robinson, A.	CATL	413	Rodwell, P.	AGRO	199
Riscoe, A.R.	COLL	798	Robinson, B.	CATL	249	Rodwin, M.	CHAL	28
Risher, N.	MEDI	286	Robinson, B.	CATL	321	Roecker, A.J.	MEDI	279
Riskin, E.	PROF	1	Robinson, C.	MEDI	206	Roeder, L.	INOR	470
Ristroph, K.	COLL	630	Robinson, D.B.	ENVR	533	Roehn-Carnemolla, E.	MEDI	101
Ristroph, K.	COLL	783	Robinson, D.B.	ENVR	551	Roelse, J.	COLL	571
Ritchhart, A.	INOR	205	Robinson, D.B.	INOR	140	Roelkens, G.	COLL	679
Riter, L.	AGRO	258	Robinson, D.H.	ORGN	418	Roenbeck, M.R.	POLY	456
Ritt, C.	ENVR	219	Robinson, E.	COLL	295	Roenitz, K.	PHYS	81
Ritter, A.M.	AGRO	89	Robinson, E.	CINF	87	Roenitz, K.	PHYS	136
Ritter, A.M.	AGRO	91	Robinson, G.H.	INOR	150	Rogach, A.	INOR	329
Ritter, A.M.	AGRO	300	Robinson, G.H.	INOR	644	Rogachev, A.Y.	INOR	341
Ritter, A.M.	AGRO	353	Robinson, J.T.	PMSE	558	Rogawski, D.	MEDI	84
Ritter, T.	NUCL	51	Robinson, J.R.	INOR	87	Rogelj, S.	AGRO	85
Rittmann, B.E.	ENVR	248	Robinson, J.R.	INOR	455	Rogers, L.	COMSCI	2
Rittmann, J.	PHYS	217	Robinson, J.R.	INOR	477	Rogers, B.E.	MEDI	237
Ritts, B.	ANYL	529	Robinson, J.R.	INOR	478	Rogers, K.R.	ENVR	355
Rittwegger, S.	CATL	205	Robinson, J.R.	INOR	693	Rogers, M.M.	CHED	89
Ritzen, A.	MEDI	155	Robinson, J.K.	ANYL	352	Rogers, R.E.	ENVR	259
Ritzmann, A.	NUCL	24	Robinson, J.S.	PHYS	9	Rogers, R.D.	COLL	9
Rivalta, I.	COMP	265	Robinson, J.S.	PHYS	430	Rogers, R.D.	INOR	243
Rivalta, I.	COMP	543	Robinson, J.	PHYS	546	Rogers, R.D.	POLY	151
Rivard, E.	INOR	382	Robinson, K.	CHED	142	Rogers, R.D.	YCC	14
Rivard, M.L.	ANYL	468	Robinson, P.	PHYS	244	Rogers, S.	POLY	316
Rivat, C.	MEDI	354	Robinson, P.	PROF	37	Rogers, S.	ENVR	524
Rivera, D.M.	BIOL	273	Robinson, R.	CATL	339	Roggen, M.	CHAS	40
Rivera, G.M.	BIOL	300	Robinson, R.	COLL	298	Roglians, A.	ORGN	536
Rivera, J.	POLY	96	Robinson, V.	CARB	101	Rognan, D.	MEDI	354
Rivera, K.	ANYL	324	Robinson-Hamm, J.	BIOL	3	Rogovoy, B.	MEDI	415
Rivera, K.	POLY	65	Robison, T.	PMSE	551	Roh, C.	CATL	425
Rivera-Marrer, H.	INOR	528	Robison, T.	ORGN	272	Roh, H.	ENFL	226
Rivera-Rodriguez, V.	BIOL	77	Robison, T.	MPPG	28	Roh, H.	ENFL	227
Rivera Serrano, N.M.	ANYL	119	Roble, C.	BIOL	124	Rohall, S.	COMP	141
Rivers, E.	CINF	169	Robledo, A.	COMP	163	Rohini, R.	PMSE	697
Rivers, E.	MEDI	70	Robles, O.	MEDI	26	Rohly, A.	POLY	45
Rixey, W.	ENVR	375	Robles-Hernandez, F.	ENFL	331	Rohn, C.	POLY	137
Rizvi, A.	MEDI	419	Roca, M.	POLY	380	Rohrer, J.	AGFD	325
Rizvi, N.	COMP	190	Rocchia, W.	COMP	75	Rohrer, J.	AGFD	330
Rizvi, W.	CHED	74	Roch, L.	COMP	301	Rohrer, J.	ANYL	195
Rizvi, W.	MEDI	419	Roch, L.	COMP	302	Rohrer, J.	CARB	123
Rizvi, W.	MEDI	420	Roch, L.	ENFL	560	Rohrer, J.	CARB	125
Rizzo, A.	CHED	154	Rocha, R.C.	POLY	187	Rohrer, J.	ENFL	160
Rizzo, C.J.	TOXI	20	Rocha, W.	ANYL	545	Rohrer, J.	ENVR	739
Rizzo, C.J.	TOXI	106	Rocha, W.	ENFL	417	Roitberg, A.E.	COMP	179
Rizzo, J.I.	CHED	201	Rocheffort, L.	CARB	1	Roitberg, A.E.	COMP	237
Rizzo, J.R.	ORGN	494	Rocheffort, L.	CHED	69	Roitberg, A.E.	COMP	421
Rizzo, R.	COMP	370	Rochette, E.	INOR	146	Roitberg, A.E.	COMP	499
Rizzo, R.C.	COMP	386	Rochlitz, J.	CINF	70	Roizen, J.L.	ORGN	75
Rizzo, R.C.	COMP	451	Rock, J.M.	ORGN	598	Rojas, C.	PMSE	686
Rizzo, R.C.	MEDI	175	Rocke, A.J.	HIST	31	Rojas, D.	MEDI	33
Ro, K.	AGRO	232	Rockward, T.	PROF	41	Rojas, D.	MEDI	36
Roach, T.V.	CHED	247	Rocus, S.M.	POLY	346	Rojas, E.M.	PHYS	425
Roach, T.V.	INOR	679	Rodenhizer, D.	ANYL	60	Rojas, F.	COLL	213
Robb, B.H.	ENFL	559	Rodgers, J.M.	COMP	39	Rojas, J.E.	CHED	223

Rojas, O.J.	CELL	26	Rose, S.E.	CHED	296	Rotello, V.M.	ORGN	316
Rojas, O.J.	CELL	37	Rose, V.	ENFL	402	Rotello, V.M.	PMSE	352
Rojas, O.J.	COLL	63	Rosen, B.P.	ENVR	50	Rotello, V.M.	PMSE	413
Rojjanapinun, A.	ENVR	560	Rosen, B.P.	TOXI	27	Rotello, V.M.	PMSE	526
Rajo, T.	ENFL	463	Rosen, N.	POLY	502	Rotello, V.M.	PMSE	561
Rokade, D.	PMSE	781	Rosenberg, A.	MEDI	14	Rotello, V.M.	POLY	379
Rokade, D.	PMSE	785	Rosenberg, E.	ENVR	144	Rotello, V.M.	COMP	71
Roke, S.	ANYL	5	Rosenberg, M.	BIOL	312	Roth, B.L.	MEDI	193
Roke, S.	ANYL	397	Rosenberg, R.	ENVR	124	Roth, E.	ENVR	106
Roke, S.	ANYL	453	Rosener, T.	INOR	234	Rothberg, L.	PHYS	273
Roke, S.	COLL	153	Rosenfeld, D.	COLL	112	Rothe, J.	NUCL	30
Roke, S.	GEOC	35	Rosenfeld, J.	CATL	340	Rothenstein, D.	COLL	490
Rokita, S.	TOXI	10	Rosenthal, A.	ENVR	249	Rothman, L.S.	PHYS	309
Roland, C.M.	PMSE	727	Rosenthal, A.	ANYL	301	Rothwell, K.A.	ENVR	261
Roland, T.	PMSE	673	Rosenthal, J.	ANYL	433	Rotne, J.	CINF	47
Rolczynski, B.	PHYS	46	Rosenthal, J.	INOR	558	Rotne, J.	CINF	48
Rolczynski, B.	PHYS	562	Rosenthal, J.	INOR	567	Rotroff, D.	COMP	74
Rolison, D.R.	ENFL	46	Rosenthal, J.	INOR	573	Rotstein, S.	CINF	71
Rolison, D.R.	ENFL	348	Rosenthal, J.	INOR	667	Rouaud, S.	MEDI	10
Rolison, D.R.	ENFL	354	Rosenthal, J.	INOR	750	Rouff, A.	ENVR	92
Rolison, D.R.	ENFL	380	Rosenthal, J.	INOR	752	Rouff, A.	ENVR	95
Roll, M.F.	INOR	639	Rosenthal, S.J.	BIOL	187	Rouff, A.	ENVR	97
Roll, M.F.	INOR	703	Rosenthal, S.J.	COLL	517	Rouff, A.	ENVR	620
Rolla, L.	INOR	578	Rosenthal, S.J.	MPPG	68	Rouff, A.	GEOC	60
Rolls, D.	PHYS	318	Rosenzweig, R.	POLY	104	Rouge, J.L.	COLL	309
Rolls, D.	PHYS	440	Rosenzweig, Z.	ANYL	440	Rouge, V.	ENVR	351
Rollins, R.	MEDI	282	Rosenzweig, Z.	COLL	513	Rougé, L.	MEDI	325
Rollins-Smith, L.A.	ORGN	396	Rosenzweig, Z.	COLL	754	Roughton, A.L.	MEDI	1
Rolsky, C.	POLY	59	Rosenzweig, Z.	COLL	769	Rouhanifard, S.H.	BIOL	164
Rolston, H.	ENVR	305	Rosenzweig, Z.	ENVR	73	Rouleau, M.	ENVR	286
Romain, J.	POLY	384	Rosenzweig, Z.	TOXI	57	Rountree, K.	INOR	255
Romaine, I.M.	MEDI	302	Roserosenfeldt, E.	ENVR	703	Rouse, C.	AGRO	105
Roman, A.	NUCL	25	Roshandel, S.	CATL	324	Roush, W.R.	MEDI	4
Roman, J.	ENVR	482	Roshandel, S.	ORGN	606	Rousseau, R.	CATL	9
Román, A.	CATL	270	Roshandel, S.	ORGN	613	Rousseau, R.	CATL	365
Roman-Leshkov, Y.	ENFL	3	Roshandelpoor, A.	ENVR	558	Rousseau, R.	CATL	386
Roman-Leshkov, Y.	ENFL	115	Roshandelpoor, A.	ENVR	800	Rousseau, R.	CATL	469
Roman-Leshkov, Y.	I&C	19	Rosnack, K.J.	ENVR	185	Rousseau, R.	ENFL	80
Romano, S.	PROF	40	Rosokha, S.V.	ORGN	507	Rousseau, R.	ENFL	498
Romano-Pringle, K.	ANYL	175	Ross, A.	PHYS	524	Roux, B.	COMP	464
Rombouts, F.	MEDI	124	Ross, A.E.	ANYL	123	Rouxel, J.	PHYS	96
Romeo, E.	CATL	481	Ross, A.E.	ANYL	482	Rovis, T.	ORGN	229
Romeril, S.	MEDI	25	Ross, C.A.	COLL	708	Rovoli, M.	MEDI	179
Romero, A.	AGRO	179	Ross, E.E.	COLL	178	Row, R.	BIOL	120
Romero, E.O.	ENFL	299	Ross, E.E.	COLL	671	Rowan, S.J.	PMSE	95
Romero, E.A.	INOR	621	Ross, F.M.	COLL	1	Rowan, S.J.	PMSE	146
Romero, N.	ORGN	597	Ross, M.	CATL	239	Rowan, S.J.	PMSE	300
Romero Gonzalez, R.	AGRO	352	Ross, P.	CATL	98	Rowan, S.J.	PMSE	367
Romero-Rivera, A.	CATL	157	Ross, P.	PHYS	59	Rowan, S.J.	PMSE	606
Romero-Vargas Castrillon, S.	ENVR	15	Ross, R.	AGRO	212	Rowan, S.J.	POLY	152
Romesberg, F.E.	BIOL	151	Ross, R.	AGRO	251	Rowan, S.J.	POLY	172
Romo, J.	CATL	364	Rossanese, O.W.	MEDI	301	Rowan, S.J.	POLY	493
Romo-Vaquero, M.	AGFD	280	Rosselli, N.	PMSE	111	Rowan, S.J.	POLY	515
Roncero, O.	PHYS	296	Rosser, E.	CINF	53	Rowan, S.J.	POLY	531
Rondeau, J.	INOR	295	Rossi, A.	CINF	128	Rowbotham, J.	CATL	498
Rondinone, A.	CATL	183	Rossi, L.A.	AGRO	11	Rowe, E.A.	POLY	353
Ronen, A.	ENVR	218	Rossi, L.A.	AGRO	154	Rowland, C.A.	INOR	227
Ronen, A.	ENVR	520	Rossi, N.A.	POLY	174	Rowland, C.A.	INOR	229
Ronen, A.	ENVR	672	Rossi Bergmann, B.	BIOL	318	Rowland, C.A.	INOR	626
Roner, M.	PMSE	445	Rossi Bergmann, B.	MEDI	39	Rowland, S.M.	ENFL	155
Roner, M.	PMSE	446	Rossin, J.	CATL	518	Rowley, C.N.	COMP	27
Rong, G.	ANYL	260	Rossin, R.	CATL	518	Rownaghi, A.	ENFL	410
Rong, S.	ENVR	802	Rossman, G.R.	INOR	67	Rownaghi, A.A.	ENFL	412
Rong, W.	CATL	349	Rossmel, C.	AGRO	22	Roxbury, D.	COLL	696
Ronson, T.	ORGN	427	Rosso, K.M.	GEOC	42	Roy, C.	AGRO	231
Ronson, T.	ORGN	515	Rosso, K.M.	GEOC	46	Roy, A.	CATL	256
Roohani, K.	BIOL	99	Rosso, K.M.	GEOC	51	Roy, A.	ANYL	320
Rooney, D.	INOR	730	Rosso, K.M.	INOR	355	Roy, I.	ORGN	422
Rooney, M.T.	POLY	48	Rostamzadeh, T.	INOR	464	Roy, I.	POLY	551
Roos, A.	COMP	28	Rostom, S.	POLY	431	Roy, J.	BIOL	189
Root, S.E.	PMSE	194	Rostro, M.	ENVR	608	Roy, J.	MEDI	375
Root, S.E.	PMSE	192	Rotello, V.M.	ANYL	25	Roy, R.	CATL	323
Root, S.	PHYS	551	Rotello, V.M.	ANYL	229	Roy, S.	PMSE	270
Roper, J.	COLL	787	Rotello, V.M.	ANYL	259	Roy, S.	COMP	40
Roper, T.	CATL	342	Rotello, V.M.	ANYL	392	Roy, S.	COMP	163
Roper, T.	ORGN	267	Rotello, V.M.	BIOL	21	Roy, S.	COMP	207
Roppongi, Y.	MEDI	337	Rotello, V.M.	BIOL	48	Roy, S.	CATL	457
Roque Peña, J.E.	ORGN	346	Rotello, V.M.	COLL	129	Roy, S.	COLL	354
Roring, M.	MEDI	179	Rotello, V.M.	COLL	193	Roy, S.	INOR	596
Rorae, C.	INOR	109	Rotello, V.M.	COLL	199	Roy, X.	INOR	538
Ros, S.	PMSE	453	Rotello, V.M.	COLL	208	Roy Chowdhury, A.	ANYL	109
Ros, S.	POLY	174	Rotello, V.M.	COLL	222	Royo, S.	INOR	42
Rosa, C.	CHED	330	Rotello, V.M.	COLL	232	Royzen, M.	MEDI	44
Rosa, I.R.	POLY	329	Rotello, V.M.	COLL	260	Royzen, M.	MEDI	245
Rosado, P.C.	TOXI	62	Rotello, V.M.	COLL	270	Rozes, S.	ORGN	57
Rosales, A.	POLY	621	Rotello, V.M.	COLL	297	Rozes, L.	POLY	155
Rosales, C.	MEDI	294	Rotello, V.M.	COLL	483	Rozes, L.	POLY	203
Rosales, R.	CHED	251	Rotello, V.M.	COLL	536	Rozes, L.	POLY	206
Rosario, F.L.	ENVR	148	Rotello, V.M.	COLL	689	Rozeveld, S.	CATL	22
Rosario, J.	CHED	336	Rotello, V.M.	COLL	695	Rozic, B.	PMSE	793
Rosario, S.	INOR	695	Rotello, V.M.	COLL	766	Rozler, H.	PHYS	461
Roscioli, J.D.	PHYS	404	Rotello, V.M.	COLL	774	Ruan, J.	INOR	344
Roscioli, J.D.	PHYS	511	Rotello, V.M.	INOR	764	Ruan, L.	COLL	120
Rose, J.V.	PMSE	440	Rotello, V.M.	ORGN	146	Rubasinghe, G.	AGRO	85

Rubasinghe, G.	TOXI	73	Rusere, L.	MEDI	123	Sack, J.	COLL	447
Rübel, S.	COLL	532	Rusere, L.	MEDI	233	Sackett, D.	WCC	2
Ruben, E.	CHED	229	Rushing, R.	ENVR	515	Sackus, A.	ORGN	586
Rubenstein, B.M.	PHYS	383	Rusk, R.M.	CHED	285	Sadeghi, I.	PMSE	348
Ruberti, J.W.	PMSE	473	Rusling, J.	ANYL	158	Sadeghi, I.	POLY	475
Rubhausen, M.	INOR	234	Russ, B.	PHYS	557	Sadeghipour, N.	MEDI	440
Rubiales, D.	AGRO	140	Russell, A.J.	MEDI	289	Sadek, A.	MEDI	246
Rubino, G.	CHED	14	Russell, A.F.	BIOL	198	Sadergaski, L.R.	GEOC	56
Rubino, G.	CHED	123	Russell, C.	AGFD	329	Sadergaski, L.R.	NUCL	40
Rubio, A.	PHYS	73	Russell, E.	COMP	487	Sadetsky, J.F.	ENVR	515
Rubio, A.	PHYS	102	Russell, F.	PMSE	446	Sadighi, J.P.	INOR	589
Rubloff, G.	COLL	212	Russell, J.C.	INOR	538	Sadjadi, S.	AGRO	205
Rubloff, G.	ENFL	467	Russell, S.R.	COLL	446	Sadjadi, S.	CHAS	51
Ruchirawat, S.	ORGN	12	Russell, T.P.	PMSE	96	Sadler, J.M.	POLY	207
Ruchirawat, S.	ORGN	584	Russell, T.P.	PMSE	137	Sadlo, A.	INOR	627
Ruck, M.	INOR	14	Russell, V.	CATL	360	Sadman, K.	PMSE	345
Rucker, K.	COMSCI	3	Russell, W.	ENVR	815	Sadman, K.	PMSE	700
Rucker, K.	ORGN	262	Russo, D.P.	MEDI	114	Sadow, A.D.	ENFL	362
Ruckthong, L.	TOXI	26	Russo, D.P.	TOXI	86	Sadowski, J.T.	PRES	14
Rudack, T.	COMP	273	Russo, E.B.	CHAS	52	Sadtler, B.	CATL	283
Rudd, M.T.	MEDI	82	Russo, P.S.	COLL	549	Sadtler, B.	COLL	657
Ruddock, J.M.	PHYS	9	Ruszczak, C.	TOXI	64	Sadyk, S.	INOR	160
Ruddock, J.M.	PHYS	11	Ruther, R.	ENFL	95	Saed, M.	COLL	114
Ruddock, J.M.	PHYS	336	Ruther, R.	ENFL	353	Saeed, A.	MEDI	392
Ruddock, J.M.	PHYS	430	Ruther, R.	INOR	475	Saeed, A.	INOR	748
Ruddy, D.	CATL	165	Rutherford, M.	INOR	439	Saenjum, C.	CHED	371
Ruddy, D.	CATL	167	Ruyle, B.	ENVR	49	Saenjum, C.	CHED	384
Ruddy, D.	CATL	168	Ruyle, B.	ENVR	729	Sáenz De Pipaón, C.	INOR	540
Ruddy, D.	INOR	31	Ruyle, B.	ENVR	732	Saetang, N.	I&C	60
Rudenko, A.	PHYS	318	Ruyonga, M.R.	CARB	46	Saetta, D.	ENVR	35
Rudenko, A.	PHYS	440	Ruyonga, M.R.	ORGN	679	Saets, M.	INOR	619
Rudick, J.G.	POLY	253	Ruzicka, S.	CELL	70	Saez, E.	MEDI	29
Rudie, A.	CELL	1	Ryan, D.K.	CATL	312	Saez, L.D.	MEDI	266
Rudik, A.	CINF	160	Ryan, D.K.	CATL	504	Safarik, I.	BIOL	67
Rudik, A.	COMP	348	Ryan, D.K.	ENFL	15	Safarpour, M.	AGRO	159
Rudik, A.	MEDI	401	Ryan, D.K.	POLY	62	Saffari Ghandehari, S.	ENVR	736
Rudik, A.	MEDI	452	Ryan, D.L.	AGRO	250	Safina, B.	MEDI	278
Rudrakshula, M.	ORGN	200	Ryan, D.R.	ENVR	827	Safinya, C.R.	COLL	469
Rueb, N.J.	INOR	639	Ryan, E.	ENVR	558	Safitri, D.	COMP	437
Rueb, N.J.	INOR	703	Ryan, E.	ENVR	559	Safonova, O.V.	CATL	461
Rueda, L.	MEDI	25	Ryan, E.	ENVR	800	Sage, F.C.	PMSE	394
Ruehe, J.	PMSE	181	Ryan, J.	PMSE	270	Sághy, P.	ORGN	655
Ruehe, J.	PMSE	186	Ryan, J.	CATL	205	Sagirii, S.	AGFD	345
Ruehe, J.	POLY	407	Ryan, M.D.	ORGN	74	Sagisaka, M.	COLL	587
Ruehe, J.	POLY	483	Ryan, R.	INOR	191	Sagle, L.	COLL	649
Ruello, P.	PHYS	102	Ryan, R.	INOR	572	Sagum, C.A.	MEDI	54
Ruengsangtongkul, S.	ORGN	12	Ryan, R.	MEDI	180	Sagum, C.A.	MEDI	292
Ruettinger, W.F.	CATL	50	Ryan, S.	ORGN	494	Saha, A.	CINF	151
Ruf, A.	PHYS	311	Rybak-Akimova, E.V.	INOR	166	Saha, B.	CATL	502
Ruff, P.	COLL	639	Rybak-Akimova, E.V.	INOR	172	Saha, B.	ENFL	462
Ruffner, L.A.	COMP	356	Rybak-Akimova, E.V.	INOR	174	Saha, B.	CATL	57
Ruger, G.W.	SCHB	1	Rybak-Akimova, E.V.	INOR	605	Saha, D.	MEDI	97
Ruger, G.W.	SCHB	9	Ryberg, K.	ENVR	663	Saha, P.	ANYL	169
Ruger, G.W.	SCHB	12	Rycroft, T.	ENVR	287	Saha, P.	ANYL	347
Ruggeri, B.A.	MEDI	358	Rycroft, T.	ENVR	834	Saha, P.	CELL	55
Ruhman, S.	PHYS	52	Ryder, T.R.	CHED	319	Saha, P.	CELL	56
Ruhman, S.	PHYS	325	Ryland, E.	PHYS	56	Saha, P.	CHED	150
Ruhs, N.	CINF	95	Ryland, E.	BIOL	99	Saha, P.	CHED	221
Rui, E.	MEDI	282	Ryerson, T.	PMSE	497	Saha, R.	ENFL	366
Rui, H.	COMP	464	Ryoo, B.	INOR	424	Saha, R.	ORGN	114
Ruiz, N.	ENVR	309	Ryskin, M.	MEDI	282	Saha, R.	ENVR	401
Ruiz, S.E.	ANYL	97	Ryu, C.Y.	POLY	352	Saha, S.	COLL	602
Ruiz, S.E.	ANYL	168	Ryu, J.	PHYS	154	Saha, S.	ENVR	174
Ruiz, S.E.	I&C	50	Ryu, J.	ORGN	137	Saha, S.	ANYL	345
Ruiz-Colon, E.	POLY	471	Ryu, J.	ORGN	138	Sahadeo, E.	COLL	212
Ruiz-Rios, J.	CHED	78	Ryu, J.	ORGN	139	Sahadeo, E.	ENFL	476
Ruiz-Rios, J.	MEDI	120	Ryu, S.	MEDI	151	Sahar, N.	INOR	62
Ruiz Velasco, T.	POLY	531	Ryu, S.	BIOL	302	Sahasithiwat, S.	AGFD	296
Rukes, S.	CHED	5	Rzayev, J.	PMSE	555	Sahasithiwat, S.	INOR	551
Rukes, S.C.	CHED	118	Rzhetsky, A.	CINF	59	Sahin Kehribar, E.	COLL	158
Rukes, S.C.	CHED	119	Sa, N.	ANYL	143	Sahle-Demessie, E.	ENVR	58
Rukes, S.C.	POLY	60	Sa, N.	ENFL	472	Sahle-Demessie, E.	ENVR	196
Rukes, S.C.	POLY	61	Saad, E.	GEOC	43	Sahle-Demessie, E.	ENVR	293
Rukser, D.	INOR	234	Saalfrank, P.	PHYS	139	Sahle-Demessie, E.	ENVR	321
Rullière, P.	ORGN	271	Saar, J.	TOXI	57	Sahle-Demessie, E.	ENVR	444
Rullo, A.	BIOL	183	Saavedra, D.I.	ORGN	674	Sahoo, D.	POLY	372
Rullo, A.	MPPG	71	Saavedra, J.R.	PHYS	207	Sahoo, S.	PMSE	253
Rumble, J.	CINF	28	Saba, A.	ENVR	299	Sahu, R.	MPPG	30
Rumbo, A.	POLY	380	Sabatelle, R.	COLL	299	Sahu, S.	PMSE	178
Rundberg, R.S.	NUCL	25	Sabatini, J.	POLY	501	Saiah, E.	MEDI	319
Runge, F.	BIOL	271	Sabbar, M.	PHYS	13	Said, A.A.	CHED	346
Running, C.A.	AGFD	307	Sabbe, M.	ENFL	102	Saido, K.	ENVR	247
Rupar, P.	POLY	353	Sabbers, W.A.	INOR	588	Saido, K.	GEOC	17
Rupasinghe, B.	PMSE	603	Sabbers, W.A.	INOR	614	Sailor, M.J.	ANYL	8
Rupasinghe, T.P.	COLL	326	Sable, G.A.	ORGN	293	Sailor, M.J.	COLL	57
Rupich, S.	COLL	121	Sabnis, S.	MEDI	445	Sailor, M.J.	PMSE	310
Rupp, J.	ANYL	296	Sabol, J.E.	SCHB	2	Saini, M.	MEDI	216
Rupp, J.	ENFL	139	Sabol, J.E.	SCHB	9	Saini, M.	ORGN	286
Ruppel, J.V.	ORGN	208	Sabourian, L.	CHED	133	Saini, R.	ENFL	48
Ruprecht, M.	ENVR	754	Sabyrov, K.	COLL	86	Saini, R.	ENFL	368
Rurner, T.	PROF	40	Sacca, B.	INOR	211	Saita, S.	COLL	576
Rury, A.	PHYS	5	Sacher, B.	AGRO	57	Saito, A.	AGFD	82
Rusak, D.	ANYL	546	Sacher, J.R.	COMP	565	Saito, K.	MEDI	116
Rusakov, D.	PMSE	276	Sachs, J.	MEDI	224	Saito, M.	PMSE	514

Saito, R.	BIOL	106	Samanta, D.	CATL	148	Sang, S.	AGFD	308
Saito, T.	PMSE	113	Samantaray, P.K.	PMSE	605	Sang, S.	AGFD	315
Saito, T.	PMSE	501	Samarakoan, K.P.	INOR	123	Sanghani, L.	AGRO	377
Saito, T.	POLY	166	Samarasekara, P.	COLL	195	Sanghani, L.	BMGT	4
Saito, T.	POLY	542	Samaritoni, J.G.	CHED	130	Sanghani, L.	BMGT	6
Saito, Y.	ORGN	650	Samateh, M.	AGFD	345	Sangroniz, A.	PMSE	412
Saitoh, M.	MEDI	337	Samavini, R.	AGRO	243	Sangroniz, A.	POLY	334
Saiyad, A.	ENVR	749	Samba, J.	INOR	99	Sangroniz, A.	POLY	465
Sajib, M.	MEDI	165	Sambasivan, S.	CHED	64	Sangroniz, L.	PMSE	412
Sajiki, H.	ORGN	47	Sambucetti, L.	MEDI	299	Sangroniz, L.	POLY	334
Sajiki, H.	ORGN	48	Samec, J.S.	COMP	474	Sanguramath, R.	POLY	502
Sajiki, H.	ORGN	332	Samek, D.	BIOL	158	Sanhueza-Chavez, C.	BIOL	130
Sajomsang, W.	ENVR	561	Samia, A.C.	COLL	218	Sankar, K.	ENFL	30
Sajomsang, W.	POLY	522	Samia, A.C.	COLL	261	Sankar, K.	ENFL	556
Sajwan, K.	ENVR	509	Samia, A.S.	COLL	34	Sankaranarayanan, S.	COMP	500
Sakai, H.	COLL	176	Samim, M.	ANYL	449	Sankararaman, A.	COLL	112
Sakai, H.	COLL	670	Samko, K.	COLL	51	San Martin, M.	MEDI	19
Sakai, H.	POLY	417	Sammelson, R.E.	ORGN	577	Sanoj, F.	COLL	161
Sakai, K.	COLL	176	Sammeta, V.R.	CARB	67	Sanpitakseree, C.	CATL	53
Sakai, K.	COLL	670	Sammeta, V.	MEDI	350	Sanschagrin, P.	COMP	227
Sakai, M.	CATL	79	Sammeler, R.L.	AGFD	285	Sanson, C.	AGRO	157
Sakakibara, F.	PMSE	693	Samoshin, V.V.	CARB	46	Sans Sangorin, V.	CATL	128
Sakamoto, J.	PHYS	166	Samoshin, V.V.	ORGN	679	Sant, G.	GEOC	40
Sakamoto, J.	PRES	15	Samoshina, N.M.	CARB	46	Santamaria, A.	PMSE	412
Sakamoto, T.	ORGN	49	Sampaio, K.A.	AGFD	46	Santamaria, A.	POLY	334
Sakano, T.	AGFD	10	Sampaio, L.M.	POLY	329	Santambrogio, P.	BIOL	258
Sakata, S.	ORGN	4	Sampaio, R.	CATL	189	Santer, S.A.	POLY	123
Sakata, T.	ANYL	42	Sampaio, R.	INOR	358	Santhapuram, H.K.	MEDI	425
Sakhno, T.	ENVR	635	Sampaio, R.	INOR	555	Santhapuram, H.K.	BIOL	224
Sakhno, T.	PMSE	517	Sampaio, R.	INOR	666	Santo, D.	CHED	253
Sakilam, S.	ORGN	89	Sampson, J.	INOR	25	Santomauro, F.	PHYS	217
Sakono, M.	BIOL	39	Sampson, N.S.	CHED	341	Santore, M.M.	INOR	213
Sakono, N.	COLL	275	Sams, R.	ENVR	115	Santos, C.	COMP	138
Sakugawa, H.	ENVR	638	Samu, A.	ENFL	400	Santos, E.J.	COLL	521
Sakuma, I.	COLL	49	Samu, G.F.	PHYS	447	Santos, E.J.	COLL	578
Sakurai, K.	COLL	205	Samuel, K.	MEDI	311	Santos, I.	ENVR	764
Sakurai, K.	COLL	396	Samuels, J.	MEDI	427	Santos, P.	PMSE	272
Sakurai, K.	COLL	586	San, K.	COLL	302	Santos, U.	COLL	678
Sakurai, K.	COLL	591	Sanabria, J.	MEDI	445	Santos, W.L.	BIOL	275
Sakurai, K.	COLL	595	Sanchez, A.	PROF	40	Santos Cancel, M.	ANYL	427
Sakurai, K.	COLL	596	Sanchez, A.	PHYS	207	Santos Cancel, M.	ANYL	377
Sala, L.	PHYS	217	Sanchez, B.	MEDI	4	Santos-Diaz, S.	CHED	422
Saladino, M.	CARB	1	Sanchez, C.	ORGN	268	Santra, A.	MEDI	243
Saladino, M.	CARB	35	Sanchez, C.	INOR	410	Santra, A.	ENFL	367
Saladino, M.	CHED	69	Sanchez, D.M.	COMP	235	Santra, R.	PHYS	98
Salah, E.	MEDI	54	Sanchez, J.	INOR	55	Santra, S.	COLL	637
Salahub, D.R.	COMP	219	Sanchez, J.	INOR	488	Santschi, N.	ORGN	390
Salama, F.	PHYS	193	Sanchez, L.	CHED	314	Santschi, P.H.	NUCL	43
Salama, F.	PHYS	420	Sanchez, L.	CHED	315	Sanyal, A.	COLL	695
Salama, I.	COMP	385	Sanchez, L.	CHED	324	Sanyal, A.	POLY	80
Salamanca, C.H.	CHED	343	Sanchez, L.	CHED	325	Sanyal, K.	MEDI	395
Salamat, A.	PHYS	187	Sanchez, L.	MEDI	181	Sanyal, R.	POLY	80
Salame, I.	CHED	416	Sanchez, L.	ORGN	631	Sanyal, U.	CATL	166
Salamon, M.M.	PMSE	634	Sanchez, L.	ORGN	656	Sanyal, U.	CATL	365
Salas-De La Cruz, D.	POLY	244	Sanchez, V.	ANYL	363	Sanyal, U.	ENFL	501
Salas-De La Cruz, D.	POLY	359	Sánchez-Cruz, N.	CINF	153	Saoud, K.M.	CATL	56
Salas-De La Cruz, D.	POLY	360	Sánchez-Fontecoba, P.	ENFL	463	Saparin, N.	AGFD	45
Salas-Perez, R.A.	AGRO	105	Sanchez-Garcia, E.	COMP	491	Sapia, R.	BIOL	72
Salazar, H.	COMP	23	Sanchez-Garcia, E.	INOR	211	Sappy, I.	CARB	66
Salazar, J.	PMSE	392	Sanchez-Garcia, E.	ORGN	187	Sappy, I.	TOXI	17
Salazar, M.	CATL	260	Sanchez-Grande, A.	COLL	495	Sapre, A.	AGFD	172
Salazar, M.R.	PHYS	232	Sánchez-Iglesias, A.	COLL	364	Sar, C.	MEDI	354
Saldívar, F.	CINF	21	Sánchez-Purrà, M.	ANYL	64	Saraf, S.	INOR	708
Saldívar-González, F.I.	CHED	78	Sánchez-Purrà, M.	COLL	565	Sarah, S.	ANYL	240
Saldívar-González, F.I.	MEDI	120	Sanchez-Sanchez, M.	CATL	156	Sarang, S.	CHED	197
Saleh, A.A.	BIOL	54	Sanctuary, R.	CELL	59	Sarappa, J.M.	POLY	132
Saleh, F.Y.	ORGN	288	Sandaruan, C.	AGRO	242	Sarappa, D.J.	INOR	256
Saleh, N.B.	ENVR	288	Sandaruan, C.	AGRO	243	Sarff, P.M.	AGRO	379
Saleh, N.M.	COLL	766	Sander, S.P.	PHYS	592	Sargent, E.	ENFL	504
Saleh, Y.	COLL	751	Sander, W.W.	ORGN	241	Sargent, E.	MPPG	48
Salem, D.	COLL	668	Sanders, J.	BIOL	257	Sarjeant, A.	CINF	12
Salerno, T.	MEDI	445	Sanders, J.	CARB	93	Sarjeant, A.	CINF	61
Salgado, V.L.	AGRO	123	Sanders, S.	PHYS	520	Sarjeant, A.	CINF	82
Salifu, M.	BIOL	38	Sanders, S.	AGFD	342	Sarjeant, A.	CINF	108
Salih, B.	ANYL	94	Sanders, V.A.	NUCL	10	Sarjeant, A.	CINF	136
Salim, M.	COLL	795	Sanderson, J.N.	POLY	345	Sarkar, A.	POLY	473
Salinas, M.P.	CATL	335	Sandi-Urena, S.	CHED	213	Sarkar, A.	BIOL	249
Sall, E.	AGRO	271	Sandler, A.D.	COLL	413	Sarkar, B.	ORGN	513
Saller, H.	CINF	68	Sandoe, H.	COLL	509	Sarkar, B.	PMSE	819
Saller, H.	CINF	148	Sandoval Espinola, W.J.	BIOL	204	Sarkar, M.	CINF	137
Salley, D.	CINF	34	Sandoz-Rosado, E.J.	POLY	456	Sarkar, S.	PMSE	18
Sallis, S.	ENFL	402	Sandström, R.	CATL	315	Sarkar, S.	ANYL	189
Salmeron, M.	CATL	101	Sanford, M.J.	PMSE	638	Sarkar, S.	ENVR	735
Salmeron, M.	CATL	120	Sanford, M.S.	AGRO	97	Sarkar, S.	ENVR	789
Salmin, D.C.	ENFL	375	Sanford, M.S.	INOR	694	Sarkar-Banerjee, S.	COMP	566
Salmon, C.	INOR	151	Sanford, M.S.	ORGN	3	Sarker, M.I.	AGFD	245
Salmon, G.	BIOL	302	Sanford, M.S.	ORGN	120	Sarkes, D.A.	COLL	412
Salter-Blanc, A.	ENVR	376	Sanford, M.S.	ORGN	504	Sarlah, D.	ORGN	52
Salud-Bea, R.D.	BIOL	264	Sanford, M.S.	ORGN	555	Sarlah, D.	ORGN	320
Salvador, G.	ANYL	516	Sang, L.	ENFL	141	Sarmiento, F.	ENVR	145
Salzano, A.	CATL	305	Sang, S.	AGFD	25	Sarno, D.M.	CHED	275
Samani, M.N.	ENFL	237	Sang, S.	AGFD	54	Sarre, P.	PHYS	195
Samani, P.	AGFD	128	Sang, S.	AGFD	67	Sartor, S.M.	ORGN	74
Samanta, D.	INOR	311	Sang, S.	AGFD	151	Sarwar, M.	CATL	114

Sasaki, I.	ANYL	425	Sayle, R.A.	CINF	77	Scher, J.	PHYS	210
Sasaki, I.	ORGN	6	Sayle, R.A.	CINF	162	Scher, J.	PHYS	435
Sasaki, S.	COLL	205	Sayle, R.A.	CINF	170	Scher, J.	PHYS	486
Sasaki, T.	POLY	375	Sayler, J.	COLL	714	Scher, J.	PHYS	577
Sasaki, Y.	POLY	288	Sayresmith, N.	ANYL	495	Scherbring, S.	CARB	34
Sasan, K.	COLL	726	Sazio, P.	CATL	84	Scherer, M.	ENVR	261
Saski, C.	AGRO	105	Scales, S.A.	MEDI	282	Scherer, M.	GEOC	66
Sassi, M.	NUCL	80	Scaletti, F.	COLL	270	Scherf, K.	AGFD	145
Sassin, M.	PMSE	105	Scalfani, V.F.	CINF	52	Schettler, S.	BIOL	98
Sassin, M.B.	ENFL	348	Scalfani, V.F.	CINF	94	Scheuermann, A.	PMSE	228
Sassin, M.B.	ENFL	354	Scalfani, V.F.	POLY	364	Scheutz, G.	PMSE	293
Sassoubre, L.	AGRO	299	Scanlan, T.S.	BIOL	1	Schiano, A.	AGFD	124
Sastre Calabuig, F.	CATL	31	Scanlan, T.S.	MEDI	222	Schieberle, P.H.	AGFD	222
Sastry, G.	MEDI	452	Scappaticci, S.J.	CATL	206	Schieberle, P.H.	AGFD	271
Sather, A.	ORGN	58	Scarabelli, L.	ANYL	178	Schief, W.R.	CARB	73
Sathyamoorthy, S.	ENVR	330	Scarabelli, L.	COLL	53	Schierning, G.	MPPG	38
Sati, G.C.	MEDI	378	Scarabelli, L.	COLL	567	Schiffels, D.	COLL	312
Satik, Y.	ANYL	43	Scarano, F.J.	AGFD	123	Schiffer, C.A.	MEDI	123
Sato, H.	MEDI	73	Scarry, S.M.	MEDI	116	Schiffer, C.A.	MEDI	177
Sato, H.	ORGN	46	Schaaf, C.	COLL	78	Schiffer, C.A.	MEDI	233
Sato, K.	ORGN	152	Schaak, R.E.	COLL	359	Schiller, T.L.	POLY	7
Sato, K.	ORGN	154	Schaak, R.E.	ENFL	184	Schilling, A.	CATL	296
Sato, T.	MEDI	73	Schacht, J.	MEDI	378	Schilling, A.	COLL	74
Satoh, T.	PMSE	124	Schaefer, C.	ORGN	136	Schmelfenig, C.E.	ANYL	514
Satoh, T.	PMSE	261	Schaefer, C.	PHYS	73	Schimer, J.	BIOL	130
Sattarov, B.	CINF	69	Schaefer, H.F.	PHYS	228	Schimler, S.D.	AGRO	97
Satter, S.S.	CATL	345	Schaefer, J.F.	BIOL	301	Schimler, S.D.	ORGN	3
Satterfield, C.S.	INOR	123	Schaefer, J.L.	ENFL	473	Schimpf, A.M.	ANYL	510
Satyal, U.	COLL	627	Schaefer, J.L.	PMSE	247	Schinazi, R.F.	COMP	435
Sauceda, H.	COMP	308	Schaefer, J.	PMSE	689	Schindler, C.	ORGN	49
Saucedo, C.	COLL	281	Schaeffer, A.	AGRO	161	Schindler, C.	ORGN	50
Sauer, J.	CATL	238	Schaeffer, R.N.	AGRO	217	Schindler, C.	ORGN	228
Sauer, J.	CATL	455	Schafer, K.	COMP	53	Schindler, C.	ORGN	284
Sauer, N.	AGFD	342	Schafer, K.	PHYS	90	Schindler, C.	ORGN	285
Saunders, C.M.	COMP	425	Schäfer, O.	PMSE	640	Schindler, C.	ORGN	356
Saurel, D.	ENFL	463	Schäfer, O.	POLY	186	Schindler, C.	ORGN	618
Sauri, J.	ANYL	560	Schaidle, J.A.	CATL	165	Schindler, M.	GEOC	25
Sautaux, J.	POLY	396	Schaidle, J.A.	CATL	167	Schjervent, W.S.	POLY	345
Sautet, P.	CATL	458	Schaidle, J.A.	CATL	168	Schkeryantz, J.	MEDI	189
Sauti, G.	PMSE	773	Schaidle, J.A.	CATL	170	Schlaad, H.	POLY	248
Sauve, G.	INOR	54	Schaller, R.D.	COMP	81	Schladetsch, M.A.	MEDI	436
Sauve, G.	PMSE	401	Schaller, R.D.	INOR	327	Schlaf, R.	I&EC	33
Sauvé, S.	ENVR	182	Schammel, A.W.	ORGN	541	Schlather, A.	HIST	3
Sauvé, S.	ENVR	731	Schammer, M.	PHYS	343	Schlau-Cohen, G.	PHYS	47
Sava Gallis, D.F.	CATL	94	Schanda, P.	COMP	105	Schlau-Cohen, G.	PHYS	509
Savagatrup, S.	COLL	65	Schann, S.	MEDI	71	Schlawin, F.	PHYS	274
Savagatrup, S.	ENVR	198	Schanze, K.S.	ANYL	30	Schlegel, H.B.	INOR	158
Savagatrup, S.	ORGN	413	Schanze, K.S.	PHYS	428	Schlegel, H.B.	PHYS	317
Savage, A.M.	POLY	453	Schanze, K.S.	PMSE	89	Schlegel, H.B.	PHYS	386
Savage, A.C.	COLL	621	Schanze, K.S.	POLY	438	Schleife, A.	COMP	174
Savage, P.E.	I&EC	26	Schanze, K.S.	POLY	439	Schlembach, M.C.	CINF	100
Savara, A.	CATL	178	Scharf, A.	ORGN	479	Schlemmer, S.	PHYS	367
Savara, A.	CATL	223	Scharmach, S.	CHED	315	Schlenk, D.	ENVR	280
Savara, A.	ENVR	29	Schartung, D.	ENFL	51	Schlenk, D.	ENVR	390
Savaram, K.	ENFL	4	Schatz, G.C.	CATL	453	Schlenoff, J.B.	COLL	415
Savaram, K.	ENFL	249	Schatz, G.C.	COLL	547	Schlenoff, J.B.	PMSE	184
Savaram, K.	ENFL	290	Schatz, G.C.	COLL	745	Schlenoff, J.B.	PMSE	230
Savaram, K.	ENFL	291	Schatz, G.C.	COMP	3	Schley, N.	INOR	450
Savaram, K.	ENFL	292	Schatz, G.C.	COMP	120	Schlom, D.	CATL	4
Savaram, K.	ENFL	295	Schatz, G.C.	COMP	310	Schlom, D.	ENFL	436
Savechenkov, P.	MEDI	144	Schatz, G.C.	COMP	441	Schlom, D.	CHED	314
Savic, M.M.	MEDI	95	Schatz, G.C.	MPPG	60	Schlossman, M.L.	COLL	16
Savikhin, S.	PHYS	24	Schatz, G.C.	ORGN	514	Schlusschass, B.	INOR	594
Savikhin, S.	PHYS	51	Schatz, G.C.	PHYS	169	Schlüter, A.	ENFL	104
Savin, D.A.	POLY	92	Schatz, G.C.	PHYS	301	Schlüter, A.	POLY	321
Savin, D.A.	POLY	115	Schatz, G.C.	PHYS	576	Schlüter, F.	PMSE	413
Savin, D.A.	POLY	269	Schauer, N.	MEDI	30	Schmalz, H.	ORGN	302
Savin, K.	ANYL	458	Schaus, J.M.	MEDI	321	Schmehl, D.	AGRO	185
Savin, K.	YCC	25	Schaus, S.	COMSCI	8	Schmeltz, N.E.	CHED	236
Savinelli, C.	AGRO	57	Scheck, R.	BIOL	215	Schmelz, E.	AGRO	219
Savizky, R.M.	CHED	92	Scheck, R.	BIOL	291	Schmidt, D.G.	CHAS	18
Savizky, R.M.	MEDI	213	Scheck, R.	BIOL	307	Schmidt, K.	COMP	41
Savych, O.	COMP	294	Scheck, R.	ORGN	361	Schmidt, K.	COMP	426
Sawab, H.	COLL	202	Scheerer, J.R.	CHED	305	Schmidt, M.	GEOC	27
Sawabe, A.	AGFD	74	Scheerer, J.R.	CHED	320	Schmidt, R.	COMP	245
Sawabe, A.	AGFD	87	Scheffer, F.	AGRO	247	Schmidt, S.	COLL	532
Sawabe, A.	AGFD	98	Scheidegger, L.	COLL	643	Schmidt, T.W.	PHYS	191
Sawada, D.	CELL	10	Scheidt, R.	COLL	360	Schmidt, T.W.	PHYS	419
Sawama, Y.	ORGN	47	Scheidt, R.	PHYS	447	Schmidt, T.W.	PHYS	518
Sawama, Y.	ORGN	48	Schellinger, J.	CHED	306	Schmidt, V.A.	INOR	84
Sawama, Y.	ORGN	332	Schellinger, J.G.	CARB	5	Schmidt, W.K.	BIOL	73
Sawas, A.	ENVR	334	Schelter, E.J.	INOR	426	Schmidt-Rohr, K.	ENVR	25
Sawchuk, D.	AGFD	238	Schentag, J.	MEDI	190	Schmiele, M.	COLL	405
Sawvel, A.M.	MPPG	17	Schentag, J.	MEDI	424	Schmiele, M.	COLL	772
Saxena, D.	ORGN	446	Schentag, J.	MEDI	453	Schmitt, A.	COLL	479
Saxena, J.	MEDI	171	Schenter, G.	GEOC	46	Schmitt, E.	PMSE	768
Sayed, F.	MEDI	372	Schenter, G.K.	INOR	355	Schmitt, K.	ORGN	423
Sayed, M.	ENFL	368	Schenter, G.K.	INOR	758	Schmitt, M.	MEDI	354
Sayed, M.	ENFL	426	Schepartz, A.	ANYL	3	Schmitt, M.	ANYL	360
Sayes, C.M.	TOXI	72	Schepperle, J.	NUCL	35	Schmitt, M.	MEDI	204
Sayes, M.	ORGN	270	Scher, J.	COMP	6	Schmitt, M.	MEDI	437
Saylan, Y.	BIOL	67	Scher, J.	COMP	172	Schmitt-Kopplin, P.	PHYS	311
Sayle, R.A.	CINF	11	Scher, J.	COMP	238	Schmitz, C.	PMSE	593
Sayle, R.A.	CINF	35	Scher, J.	COMP	262	Schmitz, C.	POLY	519

Schmitz, M.L.	CHED	247	Schultz, V.L.	COMSCI	2	Sebastiani, D.	PHYS	324
Schmitz, M.L.	INOR	679	Schulz, M.D.	POLY	116	Sechi, A.	POLY	397
Schmitz, W.D.	MEDI	265	Schulze, P.	COLL	117	Secore, S.	COLL	169
Schmolke, A.	AGRO	58	Schumann, B.	CARB	108	Sednev, M.V.	ORGN	256
Schmuker, M.	CINF	105	Schürer, S.	CINF	141	Sedore, N.	CHED	250
Schmittenmaer, C.A.	CATL	368	Schürer, S.C.	CINF	131	See, L.	MEDI	346
Schmittenmaer, C.A.	ENVR	109	Schürer, S.C.	CINF	135	Seeberger, P.H.	CARB	16
Schnadt, J.	CATL	121	Schuster, F.	AGRO	39	Seeberger, P.H.	CARB	82
Schneck, E.	COLL	646	Schütz, C.	CELL	54	Seeberger, P.H.	POLY	498
Schneekloth, J.	MEDI	404	Schütz, C.	CELL	59	Seefeldt, L.C.	BIOL	262
Schneekloth, J.	ORGN	204	Schuur, B.	CATL	432	Seefeldt, T.M.	BIOL	229
Schneekloth, J.S.	BIOL	132	Schuurman, M.	PHYS	283	Seekins, S.	CATL	51
Schneider, C.M.	CATL	67	Schuurman, Y.	CATL	464	Seel, A.	PHYS	363
Schneider, G.	CINF	25	Schwaller, P.	COMP	101	Seel, A.	PHYS	365
Schneider, G.	CINF	106	Schwantes, J.	NUCL	38	Seeman, N.C.	ANYL	383
Schneider, J.	CARB	99	Schwartz, B.J.	COMP	35	Seeram, N.P.	AGFD	19
Schneider, M.	ANYL	176	Schwartz, B.J.	PMSE	660	Seeram, N.P.	AGFD	50
Schneider, P.E.	COMP	374	Schwartz, D.K.	ANYL	217	Seeram, N.P.	AGFD	168
Schneider, P.	MEDI	438	Schwartz, D.K.	COLL	641	Seeram, N.P.	AGFD	194
Schneider, S.	COMP	357	Schwartz, D.K.	COLL	773	Seethamraju, S.	PMSE	271
Schneider, S.	INOR	594	Schwartz, J.J.	PMSE	32	Seethamraju, S.	PMSE	273
Schneider, T.	ENFL	534	Schwartz, J.J.	PMSE	122	Seferos, D.S.	INOR	383
Schneider, W.F.	ENVR	27	Schwartz, N.	INOR	668	Seferos, D.S.	PMSE	400
Schneiderman, D.K.	POLY	493	Schwartz, T.J.	CATL	359	Segall, M.D.	CINF	124
Schneiderman, D.K.	POLY	531	Schwartz, Z.	CHED	297	Segall, M.D.	COMP	135
Schnell, E.Q.	AGRO	175	Schwartzberg, A.	PHYS	493	Segall, M.D.	COMP	152
Schnell, S.	CINF	33	Schwartzberg, A.	PHYS	544	Segall, M.D.	COMP	353
Schniepp, H.C.	COLL	11	Schwartzmiller, D.	PMSE	460	Segalla, A.	ORGN	289
Schnorbus, L.	MEDI	442	Schwehr, K.	NUCL	43	Segalman, R.A.	PMSE	93
Schnorr, J.M.	ORGN	407	Schweidtmann, A.M.	CINF	154	Segalman, R.A.	PMSE	622
Schnurr, A.	NUCL	50	Schweikert, E.A.	PMSE	332	Segalman, R.A.	PMSE	647
Schnurr, M.	POLY	379	Schweitzer, G.K.	NUCL	23	Segalman, R.A.	POLY	197
Schober, G.B.	ANYL	258	Schwenk, G.	INOR	738	Segler, M.	CINF	147
Schoendorff, G.	NUCL	82	Schwenz, R.W.	PROF	50	Segler, M.	COMP	494
Schoenlein, R.W.	PHYS	8	Schwid, A.C.	PHYS	355	Seguin, T.	ENFL	204
Schoenlein, R.W.	PHYS	158	Schwieger, W.	ENFL	433	Seguin, T.	ENFL	205
Schoenmakers, P.	ANYL	291	Schwöbel, J.	COMP	44	Segura, S.	ENVR	521
Schoffers, E.	ENVR	165	Schwöbel, J.	COMP	452	Seiber, J.N.	AGFD	219
Scholes, G.D.	PHYS	50	Schwochert, J.	COMP	476	Seidel, H.	INOR	172
Scholes, G.D.	PHYS	373	Schymanski, E.	ANYL	286	Seidel, M.	MEDI	4
Scholz, P.	MEDI	95	Schymanski, E.	ENVR	115	Seidel, S.	CHED	252
Schomaecker, R.	ENVR	385	Schymanski, E.	ENVR	164	Seideman, T.	PHYS	37
Schomaker, J.M.	ORGN	247	Sciammetta, N.	MEDI	24	Seider, W.D.	ENFL	137
Schöneweiß, E.	INOR	211	Sciammetta, S.	COMP	226	Seidler, G.	ANYL	552
Schanherr, H.	ENVR	362	Sciammetta, S.	COMP	363	Seifert, G.	CATL	410
Schönhoff, M.	ENVR	54	Sciammetta, S.	MEDI	159	Seifert, H.M.	BIOL	213
Schooley, D.A.	COMP	328	Scida, A.	ENFL	245	Seifert, S.	COLL	762
Schöpke, C.	AGFD	342	Scida, A.	INOR	50	Seifried, B.	PMSE	439
Schorr, N.	ANYL	384	Scida, K.	ANYL	43	Seiler, C.	TOXI	82
Schott, J.A.	I&EC	55	Sciotti, R.J.	MEDI	335	Seiler, L.	CHAS	21
Schott-Verdugo, S.	COMP	146	Sclafani, M.	PHYS	207	Seipp, C.A.	I&EC	47
Schrader, R.	CHED	439	Scaffin, R.	COMP	226	Seipp, C.A.	I&EC	56
Schrage, B.	INOR	493	Scaffin, R.	COMP	363	Seitzberg, J.G.	MEDI	155
Schrage, B.R.	INOR	103	Scaffin, R.	MEDI	159	Sekar, G.	ORGN	114
Schramm, M.	CATL	347	Scolnick, E.	COMP	565	Seker, U.	BIOL	248
Schramm, V.L.	BIOL	20	Scorah, A.R.	MEDI	346	Seker, U.	COLL	158
Schranck, A.	ENVR	798	Scorzelli, A.	MEDI	514	Sekharan, S.	COMP	227
Schreck, J.	COMSCI	7	Scott, A.	INOR	462	Seki, T.	AGFD	31
Schreiber, M.	COMP	115	Scott, A.E.	ANYL	462	Sekijima, M.	COMP	424
Schreiber, M.	CATL	232	Scott, C.	BIOL	306	Sekirnik, A.R.	MEDI	346
Schreiber, S.L.	BIOL	200	Scott, D.	AGRO	206	Selavka, C.M.	ANYL	175
Schreiber, S.L.	BIOL	281	Scott, E.E.	POLY	345	Selbes, M.	ENVR	703
Schreier, J.	MEDI	82	Scott, J.G.	MEDI	69	Selby, T.P.	AGRO	344
Schreier, M.	INOR	104	Scott, J.G.	AGRO	150	Selcuk, S.	COMP	555
Schreiner, P.R.	PHYS	396	Scott, J.G.	AGRO	354	Selegue, J.P.	INOR	191
Schrepfer, T.	MEDI	378	Scott, K.C.	COLL	797	Selegue, J.P.	INOR	572
Schrettl, S.	POLY	383	Scott, P.	MEDI	381	Selegue, J.P.	INOR	591
Schriber, J.B.	COMP	162	Scott, P.	MEDI	382	Selegue, J.P.	MEDI	180
Schriber, J.B.	PHYS	26	Scott, P.	POLY	143	Self, W.	ANYL	280
Schrier, J.	COMP	496	Scott, P.	POLY	147	Selfridge, K.M.	BIOL	107
Schrobilgen, G.J.	ENFL	154	Scott, S.L.	ENFL	154	Selfridge, S.	BIOL	110
Schrock, R.R.	INOR	645	Scott, S.L.	CATL	13	Selin, N.	ENVR	82
Schrock, R.R.	INOR	176	Scott, S.L.	CATL	60	Selin, N.	ENVR	82
Schrock, R.R.	INOR	219	Scott, S.L.	CATL	219	Sellin, V.	PMSE	183
Schrock, R.R.	INOR	454	Scott, S.L.	CATL	297	Sellers, H.	CHED	200
Schrock, R.R.	INOR	678	Scott, S.L.	CATL	219	Selling, G.W.	AGFD	247
Schrock, R.R.	INOR	686	Scott, T.M.	INOR	236	Sellinger, A.	PMSE	23
Schrock, R.R.	INOR	687	Scott, T.F.	AGFD	21	Selloni, A.	CATL	5
Schrock, R.R.	INOR	704	Scott, T.F.	PMSE	94	Selloni, A.	CATL	5
Schrodl, S.	INOR	704	Scott, T.F.	PMSE	149	Selloni, A.	COMP	555
Schroeder, V.	CINF	129	Scott, T.F.	PMSE	207	Selma, V.	AGFD	280
Schroll, R.	ENVR	198	Scott, T.F.	PMSE	409	Selwa, E.	COLL	548
Schubert, U.S.	ENVR	426	Scott, T.F.	PMSE	786	Selwa, E.	COMP	569
Schueneman, G.	POLY	310	Scott, T.F.	POLY	51	Semancik, S.	ANYL	161
Schuitemaker, A.	POLY	466	Scott, T.F.	POLY	356	Semenov, S.N.	ORGN	667
Schuler, B.	GEOC	28	Scott, W.L.	POLY	356	Semone, S.	PHYS	541
Schuler, L.	PHYS	544	Scott, X.	CHED	130	Semple, K.T.	AGRO	163
Schuler, M.	AGRO	363	Scrittano, Y.	ENVR	195	Semple, K.T.	AGRO	166
Schulter, M.	PHYS	363	Scullion, P.	PHYS	295	Semple, K.T.	AGRO	312
Schulthen, K.	CARB	69	Scully, C.C.	MEDI	206	Semprini, L.	AGRO	312
Schulthen, K.	COMP	273	Scully, C.C.	MEDI	206	Sen, A.	ENVR	305
Schulthess, C.	COMP	273	Scully, M.O.	MEDI	306	Sen, A.	INOR	407
Schultrich, K.	GEOC	11	Seal, S.	CATL	446	Sen, I.	CATL	241
Schultz, D.	AGFD	15	Searle, X.	CATL	446	Sen, J.	CHED	194
Schultz, D.	CHED	82	Sears, J.M.	ANYL	280	Sen, P.	PMSE	193
Schultz, D.	CHED	82	Searson, P.	ORGN	478	Sen, R.	PMSE	193
Schultz, D.	CARB	34	Sebahar, P.R.	CHED	1	Sen, S.E.	I&EC	16
Schultz, E.E.	BIOL	233		ANYL	367		AGRO	310
Schultz, K.	CHED	238		ORGN	258			

Sen, S.E.	COMP	328	Shadrick, M.	CARB	61	Shao-Horn, Y.	ENFL	115
Sena, M.	ENVR	180	Shafaat, H.S.	INOR	559	Shao-Horn, Y.	ENFL	198
Sena, M.G.	AGRO	15	Shafer, J.C.	COMP	416	Shao-Horn, Y.	ENFL	557
Senaiar, R.	MEDI	410	Shafer, J.C.	NUCL	62	Shao-Horn, Y.	PHYS	60
Senanayake, R.D.	COMP	161	Shaffer, L.	MEDI	342	Shao-Horn, Y.	PMSE	40
Senanayake, S.D.	CATL	65	Shafiq, Z.	ORGN	186	Shao-Horn, Y.	PMSE	42
Senanayake, S.D.	CATL	465	Shafiq, Z.	PMSE	777	Shao-Horn, Y.	PMSE	43
Senanayake, W.G.	TOXI	54	Shafirovich, V.	TOXI	97	Shao-Horn, Y.	POLY	566
Senarathna, C.	CATL	146	Shah, A.K.	CHED	328	Shapiro, D.A.	ENFL	402
Sencadas, V.	PMSE	680	Shah, D.	MEDI	129	Shapiro, J.A.	MEDI	47
Senzik, M.	MEDI	281	Shah, D.	AGRO	349	Shapiro, M.G.	COLL	697
Sengooba, A.	MEDI	445	Shah, I.	ENVR	314	Shaplov, A.S.	POLY	245
Sengupta, A.	COMP	168	Shah, J.	COLL	696	Shapter, J.	INOR	16
Sengupta, S.	MPPG	72	Shah, K.	ENVR	544	Shaqra, A.	CARB	101
Sengupta, S.	MEDI	89	Shah, N.S.	CHED	346	Sharafi, F.	ENVR	388
Senjean, B.	COMP	16	Shah, P.K.	PMSE	371	Sharber, S.A.	ORGN	685
Senko, A.W.	COLL	112	Shah, P.	MEDI	445	Sharbt, N.	COLL	553
Senkum, H.	POLY	348	Shah, P.	POLY	358	Shariff, H.	I&EC	21
Sennett, J.B.	COLL	203	Shah, R.	AGFD	263	Sharifian Gh., M.	COLL	685
Sensintaffar, J.L.	MEDI	301	Shah, R.	CELL	10	Sharifian Gh., M.	MEDI	234
Sension, R.J.	PHYS	55	Shah, S.	MEDI	342	Sharifzadeh, S.	COMP	51
Sension, R.J.	PHYS	351	Shah, Y.V.	ORGN	286	Sharifzadeh, S.	COMP	127
Seo, G.	CARB	19	Shahi, V.	POLY	137	Sharifzadeh, S.	COMP	130
Seo, H.	ORGN	127	Shahidi, F.	AGFD	23	Sharits, A.	PMSE	270
Seo, H.	ORGN	180	Shahidi, F.	AGFD	227	Sharma, A.	PHYS	523
Seo, H.	INOR	468	Shahla, R.	ENFL	483	Sharma, A.	PMSE	684
Seo, H.	BIOL	226	Shahrear, S.	ENVR	745	Sharma, A.	CHED	257
Seo, J.	AGFD	116	Shahrin, T.	AGFD	245	Sharma, A.	MEDI	310
Seo, J.	PMSE	66	Shahu, M.	CHED	415	Sharma, A.	PMSE	686
Seo, J.	ENVR	583	Shaik, A.	MEDI	182	Sharma, A.	PMSE	783
Seo, M.	POLY	311	Shaik, A.	MEDI	139	Sharma, A.K.	CHED	355
Seo, M.	PMSE	140	Shaikh, S.	ENFL	308	Sharma, A.K.	AGRO	167
Seo, S.G.	INOR	300	Shair, M.	ORGN	251	Sharma, A.K.	AGRO	250
Seo, S.	ANYL	99	Shair, M.	ORGN	647	Sharma, A.	ENVR	289
Seo, S.	PMSE	321	Shakhashiri, B.Z.	CHED	29	Sharma, A.	ENVR	357
Seo, S.	PMSE	502	Shakhashiri, B.Z.	ENVR	170	Sharma, B.	CARB	24
Seo, S.	POLY	103	Shakiba, S.	ENVR	258	Sharma, B.	POLY	377
Seol, S.	BIOL	226	Shakouri, A.	ANYL	451	Sharma, B.	POLY	410
Seong, H.	PMSE	402	Shalan, A.	ORGN	447	Sharma, B.	ANYL	362
Seong, K.	AGRO	36	Shamay, Y.	COLL	696	Sharma, B.	AGRO	185
Seonghun, K.	ENVR	822	Shames, A.	ENFL	291	Sharma, K.	PMSE	661
Sepasizangabadi, H.	ANYL	533	Shamim, S.	COLL	15	Sharma, L.	CATL	228
Seppala, J.	CELL	42	Shamshoom, C.	POLY	387	Sharma, M.G.	ORGN	391
Sepúlveda, Á.	ENFL	276	Shamsi, M.	COLL	335	Sharma, M.	PMSE	699
Serafim, R.A.	MEDI	160	Shan, C.	ENVR	412	Sharma, N.	COLL	725
Serano, C.	ORGN	258	Shan, G.	ENVR	6	Sharma, P.	ENFL	416
Sereda, Y.	COLL	333	Shan, H.	CATL	505	Sharma, P.	AGRO	321
Sergeev, V.	ENFL	309	Shan, S.	ANYL	177	Sharma, P.R.	CELL	73
Sergentu, D.	INOR	426	Shan, S.	ANYL	407	Sharma, P.R.	CELL	75
Serghai, A.	POLY	246	Shan, S.	CATL	19	Sharma, P.R.	PMSE	448
Serra, B.	AGRO	352	Shan, S.	CATL	339	Sharma, R.	MEDI	319
Serra, O.	AGFD	189	Shan, S.	COLL	298	Sharma, R.	COLL	558
Serra Maia, R.	GEOC	48	Shan, S.	ENFL	251	Sharma, R.	MPPG	17
Serrano, E.	ENFL	276	Shan, S.	ENFL	252	Sharma, R.	PRES	24
Serrano, I.	CARB	32	Shan, S.	ENFL	547	Sharma, R.	PMSE	686
Serrano, K.A.	POLY	140	Shan, S.	ENVR	30	Sharma, R.	PMSE	783
Serrano, K.A.	PRES	4	Shan, S.	ENVR	606	Sharma, S.	MEDI	282
Serrano-Hervás, E.	CATL	157	Shan, S.	ENVR	607	Sharma, S.	ANYL	456
Serum, E.M.	ORGN	567	Shan, S.	ENVR	652	Sharma, S.	MPPG	18
Servant, G.	AGFD	240	Shan, S.	INOR	491	Sharma, S.K.	CELL	73
Seshimo, M.	CATL	79	Shan, X.	ANYL	268	Sharma, S.K.	CELL	75
Sessler, C.D.	INOR	765	Shan, X.	ENFL	58	Sharma, S.K.	PMSE	448
Sessler, C.D.	ORGN	443	Shan, X.	ENFL	399	Sharma, S.	MEDI	143
Sessler, J.L.	ANYL	76	Shan, X.	ENFL	523	Sharma, V.K.	ENVR	1
Seth, K.	ORGN	556	Shanahan, J.J.	INOR	751	Sharma, V.K.	ENVR	346
Sethi, A.	AGRO	374	Shanahan, K.L.	INOR	140	Sharma, V.K.	ENVR	579
Seto, M.K.	CHED	186	Shang, E.	ENVR	582	Sharma, V.K.	TOXI	72
Settivari, R.S.	AGRO	241	Shang, J.	MEDI	311	Sharma, V.D.	COLL	627
Settle, A.	CATL	363	Shang, S.	ENFL	455	Sharman, J.L.	CINF	67
Settle, A.	CATL	361	Shanks, B.H.	CATL	225	Sharman, J.L.	CINF	76
Settle, A.	CATL	405	Shanmugam, H.	AGFD	343	Sharman, J.L.	CINF	117
Setyawati, M.	BIOL	78	Shanmuganathan, K.	AGFD	172	Sharp, C.H.	INOR	372
Seveney, L.E.	ORGN	122	Shanmuganathan, K.	PMSE	794	Sharp, J.	COLL	621
Severt, T.	PHYS	318	Shanov, V.N.	ENVR	209	Sharpe, E.	CHED	49
Severt, T.	PHYS	440	Shao, J.	PMSE	796	Sharpe, P.L.	AGRO	207
Sevian, H.	CHED	420	Shao, C.	COLL	340	Shatirishvili, N.	CHED	231
Sevinis Ozbulut, E.B.	COLL	511	Shao, C.	PMSE	447	Shatruk, M.	INOR	15
Seybert, D.W.	MEDI	227	Shao, C.	ENFL	488	Shauly, E.	ENVR	461
Seyedsayamdost, M.	WCC	9	Shao, H.	AGRO	340	Shav-Artza, O.	CHED	419
Seyedsayamdost, M.R.	BIOL	142	Shao, L.	ENVR	40	Shaver, M.P.	INOR	94
Seyedsayamdost, M.R.	BIOL	143	Shao, S.	PMSE	702	Shaver, M.P.	PMSE	131
Se-Yeon, K.	AGRO	282	Shao, W.	MEDI	19	Shaver, M.P.	POLY	1
Se-Yeon, K.	AGRO	304	Shao, X.	AGRO	309	Shavorskiy, A.	CATL	121
Se-Yeon, K.	AGRO	350	Shao, Y.	ANYL	559	Shaw, D.E.	COMP	69
Seymour, L.W.	PMSE	336	Shao, Y.	CATL	473	Shaw, D.E.	COMP	148
Sezen, H.	CATL	16	Shao, Y.	ENFL	127	Shaw, S.	GEOC	62
Sfeir, M.	PHYS	520	Shao, Y.	ENFL	153	Shaw, S.	MEDI	301
Sgro, A.E.	BIOL	63	Shao, Y.	ENFL	210	Shaw, T.E.	INOR	144
Sgro, A.E.	BIOL	278	Shao-Horn, Y.	ANYL	254	Shay, B.	ORGN	410
Sha, R.	ANYL	383	Shao-Horn, Y.	CATL	50	Shaykhtudinov, T.	ANYL	543
Shaabani, S.	BIOL	146	Shao-Horn, Y.	CATL	99	Shea, E.	AGRO	279
Shaabani, S.	ORGN	200	Shao-Horn, Y.	CATL	143	Shea, K.J.	PMSE	623
Shabana, A.	COLL	708	Shao-Horn, Y.	CATL	218	Shea, K.M.	CHED	73
Shadike, Z.	ENFL	521	Shao-Horn, Y.	ENFL	3	Shea, K.M.	MEDI	371

Shea, K.M.	ORGN	630	Sherer, E.C.	MEDI	279	Shih, W.	INOR	346
Shea, M.	BIOL	314	Sheridan, P.M.	PHYS	556	Shih, Y.	ENVR	470
Shears, M.	PROF	32	Sheridan, P.M.	PHYS	557	Shih, Y.	ENVR	471
Sheedy, J.	MEDI	286	Sheridan, R.J.	PMSE	271	Shih, Y.	ENVR	586
Sheehan, C.	COLL	117	Sherk, C.	MEDI	25	Shih, Y.	ENVR	592
Sheehan, J.D.	I&E	26	Sherman, A.	ANYL	38	Shih, Y.	ENVR	616
Sheehan, J.	AGRO	240	Sherman, A.	ANYL	450	Shih, Y.	ENVR	626
Sheehan, S.W.	CHED	4	Sherman, D.H.	BIOL	195	Shih, Y.	ENVR	765
Sheehan, S.W.	INOR	664	Sherman, D.H.	ORGN	252	Shih, Y.	ENVR	383
Sheen, D.A.	ANYL	545	Sherman, D.H.	ORGN	505	Shih, Y.	ENVR	402
Sheen, D.A.	ENFL	417	Sherman, M.	COLL	435	Shih, Y.	ENVR	584
Shehaj, L.	BIOL	239	Sherman, W.	COMP	113	Shih, Y.	ENVR	721
Shehee, T.C.	PMSE	70	Sherman, W.	COMP	540	Shih, Y.	ENVR	722
Sheikh, M.	CARB	130	Sherrill, C.D.	COMP	539	Shih, Y.	MEDI	396
Sheils, T.	CINF	121	Shete, A.U.	POLY	389	Shijie, Y.	COLL	256
Shekdar, K.	AGFD	238	Shetty, D.	PMSE	344	Shillingford, C.	COLL	506
Shekhawat, D.	CATL	134	Shetty, K.	AGFD	39	Shim, M.	COLL	442
Shekhawat, D.	CATL	321	Sheu, T.	INOR	210	Shimada, Y.	PMSE	573
Shekhtman, A.	BIOL	60	Shevate, R.	PMSE	346	Shimazu, H.	ENVR	686
Shelat, B.	ORGN	478	Shevchenko, E.	INOR	333	Shimizu, C.	CINF	137
Shelby, M.	PHYS	57	Shevchenko, N.	POLY	340	Shimizu, E.	PMSE	819
Sheldon, B.W.	PHYS	224	Shevchenko, V.	POLY	294	Shimizu, J.F.	CINF	24
Shell, J.R.	MEDI	247	Sheveland, C.G.	BIOL	101	Shimoda, A.	ORGN	161
Shell, T.A.	BIOL	101	Shevlin, M.	ORGN	304	Shimoi, K.	AGFD	90
Shell, T.A.	MEDI	247	Sheykhi, S.	ORGN	600	Shimosaka, T.	POLY	457
Shelley, J.	COMP	527	Shi, C.	ENVR	709	Shimura, Y.	ORGN	564
Shelton, W.	INOR	630	Shi, D.	ENVR	382	Shin, A.	MEDI	191
Shelver, W.L.	AGRO	320	Shi, D.	MEDI	42	Shin, C.	ORGN	112
Shen, A.	PMSE	663	Shi, D.	POLY	378	Shin, H.	ENFL	266
Shen, B.	COLL	615	Shi, F.	ENVR	107	Shin, H.	ENFL	286
Shen, B.	COLL	173	Shi, H.	INOR	56	Shin, H.	ENFL	511
Shen, B.	ENFL	481	Shi, H.	ANYL	465	Shin, H.	AGRO	325
Shen, C.	POLY	543	Shi, H.	ENVR	234	Shin, H.	AGRO	326
Shen, C.	ENVR	270	Shi, H.	ENVR	187	Shin, H.	AGRO	327
Shen, C.	ENVR	554	Shi, H.	ENVR	522	Shin, H.	AGRO	328
Shen, D.	MEDI	4	Shi, H.	CATL	102	Shin, H.	COLL	575
Shen, E.	PMSE	29	Shi, H.	ENVR	526	Shin, H.	CATL	508
Shen, F.	CELL	51	Shi, J.	ORGN	612	Shin, H.	ENFL	548
Shen, F.	ENVR	368	Shi, J.	MEDI	108	Shin, J.	COMP	582
Shen, F.	MEDI	240	Shi, J.	CATL	331	Shin, J.	POLY	305
Shen, H.	ANYL	120	Shi, L.	COMP	66	Shin, J.	POLY	619
Shen, J.	COMP	428	Shi, L.	ENVR	80	Shin, J.	POLY	305
Shen, J.	PMSE	323	Shi, L.	ENVR	434	Shin, J.H.	CHED	152
Shen, J.	POLY	145	Shi, L.	MEDI	370	Shin, J.H.	CHED	153
Shen, J.	POLY	146	Shi, L.	ENFL	153	Shin, J.	ORGN	342
Shen, J.	AGRO	335	Shi, L.	AGFD	185	Shin, J.	ORGN	621
Shen, J.	ENVR	808	Shi, M.	CARB	64	Shin, K.	CATL	325
Shen, J.	ENVR	810	Shi, Q.	ENVR	132	Shin, K.	COLL	200
Shen, K.	ENFL	436	Shi, Q.	ENVR	395	Shin, M.	COLL	530
Shen, L.	ENVR	434	Shi, Q.	ENFL	481	Shin, M.	ANYL	554
Shen, L.	ENFL	61	Shi, Q.	ENFL	57	Shin, M.	BIOL	250
Shen, M.	ANYL	91	Shi, Q.	ENFL	103	Shin, S.	PMSE	571
Shen, M.	CATL	283	Shi, Q.	ENFL	161	Shin, S.	CATL	508
Shen, M.	PMSE	608	Shi, Q.	ENFL	265	Shin, S.	ENFL	548
Shen, M.	ANYL	158	Shi, R.	ENFL	311	Shin, S.	POLY	236
Shen, P.	AGFD	57	Shi, R.	AGRO	310	Shin, Y.	AGFD	139
Shen, P.	AGFD	331	Shi, R.	CATL	63	Shin, S.	BIOL	37
Shen, P.	ORGN	123	Shi, S.	PMSE	137	Shin, S.	BIOL	211
Shen, Q.	MEDI	62	Shi, S.	MPPG	44	Shin, S.	ENVR	155
Shen, R.	ANYL	110	Shi, W.	NUCL	53	Shinde, P.S.	ANYL	341
Shen, R.	ANYL	418	Shi, X.	ENVR	819	Shinde, P.S.	ANYL	343
Shen, X.	ENFL	495	Shi, X.	PHYS	386	Shinde, P.S.	ANYL	391
Shen, Y.	ENVR	781	Shi, Y.	POLY	39	Shinde, S.	ENFL	209
Shen, Y.	ENVR	396	Shi, Y.	ENVR	45	Shinde, S.	ENFL	285
Shen, Y.	ENVR	156	Shi, Y.	INOR	323	Shine, E.	BIOL	166
Shen, Y.	COLL	617	Shi, Y.	MEDI	330	Shinoda, K.	COMP	360
Shen, Y.	PMSE	702	Shi, Z.	MEDI	385	Shinsato, H.	CHED	392
Shen, Y.	PMSE	756	Shiau, B.J.	ENFL	270	Shipley, H.	ENVR	450
Shen, Y.	POLY	28	Shiau, B.J.	ENFL	271	Shipley, N.	POLY	463
Shen, Y.	POLY	491	Shiau, B.J.	ENFL	272	Shipman, S.T.	PHYS	136
Shen, Y.	MEDI	22	Shiba, B.	ORGN	571	Shipp, D.A.	POLY	4
Shen, Y.	ENVR	74	Shibamoto, T.	AGFD	288	Shipp, D.A.	POLY	55
Shen, Z.	ENFL	235	Shibanuma, M.	MEDI	96	Shipp, D.A.	POLY	402
Shen, Z.	PMSE	578	Shibanuma, M.	MEDI	388	Shipp, D.A.	POLY	521
Shen, Z.	PHYS	396	Shibata, K.	POLY	228	Shiraishi, T.	MEDI	73
Shen, Z.	AGFD	203	Shibatomi, K.	ORGN	101	Shiraki, T.	COMP	319
Shen, Z.	AGFD	257	Shibuya, K.	ORGN	574	Shirato, N.	ENFL	402
Shende, V.V.	ORGN	252	Shibuya, Y.	PMSE	40	Shiratori, S.	ANYL	163
Sheng, D.	CATL	313	Shieh, F.	CATL	93	Shiratori, S.	ANYL	164
Sheng, H.	ENFL	503	Shieh, P.	PMSE	117	Shiratori, S.	PMSE	461
Sheng, H.	ANYL	560	Shieh, P.	POLY	478	Shirihai, O.	PMSE	687
Sheng, J.	BIOL	290	Shield, K.	NUCL	25	Shirihai, O.	POLY	183
Sheng, J.	MEDI	239	Shields, E.	MEDI	50	Shirley, B.	COMP	141
Sheng, J.	PMSE	754	Shields, E.	MEDI	265	Shirley, D.J.	BIOL	32
Sheng, M.	AGRO	94	Shields, S.	MEDI	278	Shirman, T.	POLY	497
Sheng, W.	PHYS	464	Shields, W.	COLL	488	Shiro, Y.	COMP	329
Shepard, S.M.	INOR	649	Shields, W.	COLL	706	Shirts, M.R.	COMP	396
Shepardson-Fungairino, S.	PHYS	501	Shih, C.	PMSE	110	Shirts, M.R.	COMP	423
Shepardson-Fungairino, S.	CHED	178	Shih, C.	COLL	373	Shirts, M.R.	PMSE	64
Shepherd, T.R.	PHYS	47	Shih, C.	COLL	521	Shirtz, J.	PMSE	111
Sheppard, G.S.	MEDI	22	Shih, C.	COLL	578	Shishikura, Y.	MEDI	206
Sheppard, R.	COMP	532	Shih, J.	POLY	572	Shitao, W.	POLY	371
Sherbow, T.	INOR	651	Shih, K.	ORGN	685	Shitasue, S.	AGFD	90
Sherer, E.C.	COMP	154	Shih, T.	POLY	15	Shivakumar, S.	MEDI	65

Shivashankar, V.	COMP	188	Siam, K.S.	ENFL	242	Simon, A.	ORGN	482
Shivley, C.	AGFD	316	Sibener, S.	COLL	714	Simon, A.	BIOL	96
Shizgal, B.	PHYS	79	Sibi, M.P.	ORGN	300	Simon, A.	PHYS	399
Shizuka, M.	MEDI	363	Sibi, M.P.	ORGN	567	Simon, A.	PHYS	540
Shkurti, A.	COMP	461	Siccardi, M.	COLL	784	Simon, K.	CHED	153
Shlaferman, J.	CHED	149	Šicho, M.	AGRO	86	Simon, P.	ENFL	170
Shneidman, A.V.	POLY	513	Sicinski, K.M.	ORGN	296	Simon, Y.	ANYL	545
Shoabi, M.	ENFL	430	Siddhanta, S.	ANYL	406	Simonin, L.	POLY	299
Shoba, V.	ORGN	305	Siddiqui, A.	CHED	42	Simonov, A.	ENFL	113
Shodeine, A.	PMSE	372	Siddiqui, M.N.	ENFL	306	Simons, C.T.	AGFD	306
Shofield, E.	INOR	523	Siddiqui, S.	ORGN	343	Simonsen, S.	COLL	503
Shoichet, B.	COLL	629	Siddiqui, S.	CHED	74	Simperler, A.	NUCL	85
Shoichet, B.	COLL	779	Sidorenko, A.	COMP	42	Simpkins, B.	PHYS	381
Shoichet, B.	COMP	34	Sieburth, S.M.	ORGN	176	Simpkins, B.	PHYS	397
Shoichet, B.	COMP	71	Siedlecki, P.	CINF	123	Simpkins, A.	CHAL	20
Shoichet, M.S.	COLL	629	Siefe, C.	COLL	382	Simpson, A.	CHED	282
Shoichet, M.S.	COLL	779	Siefe, C.	COLL	384	Simpson, G.J.	ANYL	38
Shojaei, H.	ORGN	256	Siefe, C.	COLL	690	Simpson, G.J.	ANYL	39
Shoji, K.	ANYL	524	Siegel, A.	ANYL	558	Simpson, G.J.	ANYL	189
Sholl, D.	I&EC	24	Siegel, C.	COMP	94	Simpson, G.J.	ANYL	450
Shon, Y.	CATL	483	Siegel, D.	ANYL	487	Simpson, G.J.	ANYL	504
Shon, Y.	COLL	302	Siegel, D.	ANYL	488	Simpson, M.	I&EC	13
Shon, Y.	COLL	658	Siegel, D.	ENFL	173	Simpson, M.F.	INOR	423
Shong, B.	COLL	638	Siegel, D.	PHYS	165	Simpson, S.	ANYL	166
Shorkey, S.	INOR	764	Siegel, J.	CHAS	39	Sims, G.	AGRO	164
Shortle, W.C.	ENVR	162	Sieghart, W.	MEDI	95	Sims, I.R.	PHYS	372
Shortt De Hernandez, F.	CINF	70	Siepmann, J.I.	COLL	715	Sims, J.	AGRO	219
Shou, D.	COLL	334	Siepmann, J.I.	COMP	405	Sims, M.B.	PMSE	293
Shou, D.	POLY	440	Siepmann, T.	SCHB	9	Sims, M.B.	POLY	115
Shoulders, M.	BIOL	113	Siepsner, N.	ANYL	104	Sinclair, R.	COLL	371
Shoulders, M.	BIOL	134	Siepsner, N.	ANYL	116	Sinclair, R.	COLL	741
Shoulders, M.	BIOL	169	Sierra, C.A.	AGRO	179	Sinclair, R.	ENVR	835
Shoulders, M.	BIOL	178	Sierra, C.A.	ENVR	478	Sinclair, T.	PHYS	271
Shoulders, M.	BIOL	236	Sievers, C.	COLL	420	Sinclair, T.	PHYS	406
Shoulders, M.	BIOL	303	Sifain, A.	COMP	179	Sindet, R.	MEDI	155
Shoulders, M.	CARB	42	Sigman, M.	ANYL	289	Sindhvani, S.	COLL	454
Shoulders, M.	INOR	769	Sigmann, S.B.	CHAS	30	Singappuli-Arachchige, D.	CATL	52
Shouliang, H.	GEOC	13	Sigman, G.	NUCL	75	Singaram, B.	ANYL	414
Showman, J.	COMP	535	Sijbesma, R.P.	POLY	201	Singer, J.P.	COLL	720
Shpigel, T.	PMSE	792	Sikes, H.D.	ANYL	10	Singer, K.D.	POLY	208
Shrestha, P.	ANYL	501	Sikes, H.D.	PMSE	624	Singh, A.	COLL	372
Shrestha, S.	CELL	61	Sikes, H.D.	PMSE	787	Singh, A.	INOR	529
Shrestha, S.	POLY	466	Sikora, R.E.	INOR	194	Singh, A.	MEDI	427
Shrode, A.	CHED	207	Sikora, A.	COLL	436	Singh, A.	INOR	529
Shu, D.	ENFL	554	Silmore, K.	ANYL	330	Singh, A.K.	ENVR	194
Shu, N.S.	ANYL	122	Silmore, K.	COLL	170	Singh, A.	AGRO	329
Shu, P.	CARB	18	Silmore, K.	COLL	286	Singh, A.	INOR	680
Shu, T.	COLL	418	Silmore, K.	COLL	577	Singh, A.	POLY	287
Shu, Y.	MEDI	355	Silva, C.	BIOL	56	Singh, A.	ANYL	357
Shu, Y.	COMP	164	Silva, C.	COLL	570	Singh, B.	CHED	257
Shuai, Z.	COMP	533	Silva, C.	PHYS	270	Singh, B.	MEDI	33
Shuang, C.	ENVR	268	Silva, D.	COMP	159	Singh, B.	ENFL	495
Shuang, C.	ENVR	829	Silva, D.	ENVR	572	Singh, B.	ENVR	147
Shuart, N.	MEDI	333	Silva, L.	MEDI	38	Singh, G.	COLL	186
Shuart, N.	MEDI	359	Silva, L.	MEDI	310	Singh, H.	COMP	71
Shuford, K.L.	PHYS	545	Silva, L.	MEDI	310	Singh, I.	COMP	71
Shuh, D.K.	GEOC	53	Silva, S.O.	ENVR	572	Singh, M.	AGFD	101
Shuh, D.K.	INOR	420	Silva, W.C.	AGFD	46	Singh, M.	CATL	100
Shuken, S.	COLL	345	Silvagni, M.	MEDI	365	Singh, N.	CATL	365
Shukitt-Hale, B.	AGFD	21	Silva Quiñones, D.	COLL	190	Singh, N.	I&EC	7
Shukitt-Hale, B.	AGFD	24	Silver, J.E.	BIOL	228	Singh, P.	I&EC	15
Shukla, A.	CHED	59	Silver, J.E.	MEDI	422	Singh, P.	ENVR	398
Shukla, A.	PMSE	241	Silver, P.	INOR	250	Singh, P.	COLL	648
Shukla, A.	PMSE	732	Silver, S.	PMSE	127	Singh, P.	AGFD	169
Shukla, A.	ENFL	470	Silver, S.	CHED	142	Singh, R.	POLY	445
Shukla, D.	BIOL	13	Silvera, I.F.	PHYS	583	Singh, R.	AGRO	185
Shukla, D.	BIOL	58	Silverstein, M.S.	PMSE	274	Singh, R.	COMP	29
Shukla, D.	COMP	239	Silverstein, M.S.	POLY	502	Singh, R.S.	PHYS	499
Shukla, D.	COMP	457	Silverwood, I.	CATL	112	Singh, R.	COLL	619
Shukla, M.K.	TOXI	44	Silverwood, I.	CATL	114	Singh, R.P.	ORGN	672
Shukla, N.	COLL	41	Silvestre, V.	ANYL	287	Singh, S.	AGFD	170
Shukla, P.	AGFD	172	Silvestri, R.	CHED	32	Singh, S.	BIOL	301
Shukla, S.	CHED	59	Silvestri, R.	CHED	37	Singh, V.	PHYS	562
Shulenberg, K.	PHYS	271	Silvian, L.	COMP	110	Singhana, B.	POLY	281
Shulenberg, L.	PHYS	551	Sim, E.	COMP	89	Singha Roy, M.	ORGN	658
Shull, K.R.	PMSE	345	Sim, S.	PMSE	172	Singh Raman, R.	PHYS	298
Shull, K.R.	PMSE	700	Sim, S.	POLY	567	Singldinger, B.	AGRO	110
Shulman, M.	POLY	158	Simancus, K.	PMSE	181	Sinha, J.	POLY	279
Shultz, L.	INOR	144	Simberg, D.	ANYL	538	Sinha, J.	POLY	418
Shultz, M.J.	PHYS	483	Simberg, D.	COLL	389	Sinha, S.	ENVR	488
Shumaker-Parry, J.S.	INOR	271	Simcik, M.F.	ENVR	372	Sinha, S.	MEDI	380
Shunatona, H.	MEDI	26	Simeonov, A.	MEDI	83	Sinniah, R.S.	BIOL	132
Shurtleff, V.W.	ORGN	174	Simeonov, A.	MEDI	302	Sinthuprasert, P.	INOR	361
Shutthanandan, V.	NUCL	80	Simkunaite-Stanyniene, B.	ENFL	219	Sinz, M.	MEDI	265
Shved, A.S.	ORGN	52	Simmerling, C.L.	COMP	413	Siochi, E.J.	PMSE	773
Shvedova, A.A.	TOXI	23	Simmermacher-Mayer, J.	MEDI	265	Siol, A.	CHED	372
Shwartz, G.	CHED	95	Simmonett, A.C.	COMP	39	Sipőcz, T.	ORGN	576
Shwartz, G.	CHED	417	Simmons, C.	AGRO	279	Sipos, G.	ORGN	181
Si, S.K.	ENFL	293	Simmons, E.S.	CINF	15	Sippl, W.	CINF	3
Si, Y.	ANYL	95	Simmons, E.	ORGN	339	Sippl, W.	CINF	27
Si, Y.	ENVR	602	Simmons, N.	AGRO	158	Sipponen, M.H.	CELL	32
Siaj, M.	ENVR	134	Simmons, M.	ENVR	67	Sirasunthorn, N.	ANYL	430
Siam, K.S.	ENFL	240	Simoben, C.	CINF	3	Sirena, D.	CARB	99
Siam, K.S.	ENFL	241	Simois, F.F.	INOR	359	Sirimulla, S.	CINF	126
			Simon, A.	CATL	159	Sirimulla, S.	CINF	163

Sirimulla, S.	COMP	385	Sly, J.	MPPG	112	Smith, M.R.	ORGN	126
Sirimulla, S.	COMP	390	Sly, K.	ANYL	454	Smith, P.	INOR	28
Sirirak, J.	INOR	551	Slok, F.A.	ORGN	586	Smith, P.A.	MEDI	325
Sirirak, J.	INOR	673	Smaldone, R.	PMSE	209	Smith, R.B.	PHYS	65
Sirirak, J.	INOR	701	Smaldone, R.	PMSE	537	Smith, R.C.	AGFD	286
Sirirungruang, S.	BIOL	263	Smallridge, A.J.	CHED	93	Smith, R.C.	CELL	5
Siriwardane, R.V.	ENFL	480	Smallridge, A.J.	CHED	352	Smith, R.C.	ENVR	717
Sirkoch, C.	PHYS	478	Smeureanu, G.M.	CHED	57	Smith, R.C.	POLY	135
Sirois, L.	ORGN	489	Smeureanu, G.M.	CHED	99	Smith, R.D.	ANYL	514
Sirrine, J.	POLY	143	Smiles, D.E.	INOR	420	Smith, R.	ANYL	127
Sirumalla, S.	COMP	458	Smilgies, D.	COLL	119	Smith, R.	CARB	70
Sirvent, J.	MEDI	272	Smirnov, A.	MEDI	383	Smith, R.	CHED	245
Sirvinskaite, G.	ORGN	427	Smirnov, D.	INOR	79	Smith, R.T.	MEDI	306
Siryaporn, A.F.	POLY	104	Smirnov, D.	INOR	360	Smith, R.C.	ENVR	104
Sisodiya, S.	ORGN	286	Smit, B.	COMP	541	Smith, S.	INOR	300
Sissay, A.	COMP	53	Smit, B.	ORGN	534	Smith, S.	CATL	152
Sissay, A.	PHYS	90	Smit, J.	PMSE	704	Smith, S.	CATL	342
Sit, S.	MEDI	51	Smit, J.	POLY	77	Smith, S.	CHED	279
Sittenfeld, D.F.	CHED	30	Smith, A.C.	ORGN	88	Smith, S.M.	INOR	299
Sitter, B.	ORGN	601	Smith, A.	ENVR	78	Smith, T.	MEDI	228
Sittig, S.	AGRO	47	Smith, A.	PMSE	717	Smith, T.P.	MEDI	122
Situ, S.F.	COLL	261	Smith, A.	MEDI	356	Smith, T.A.	PHYS	419
Siu, J.C.	CATL	211	Smith, A.	COLL	516	Smith, T.A.	PHYS	472
Siu, P.	INOR	122	Smith, A.B.	MEDI	80	Smith, W.J.	COLL	389
Siva, C.S.	MEDI	118	Smith, A.B.	MEDI	391	Smith, Z.P.	ENFL	365
Sivaprakasam, P.	MEDI	364	Smith, A.	ENFL	555	Smock, S.R.	INOR	584
Sivarajan, R.	POLY	162	Smith, A.	ENVR	530	Smoker, J.	PHYS	195
Sivetz, N.	ORGN	575	Smith, A.A.	INOR	480	Smolens, J.	PMSE	337
Sivey, J.D.	AGRO	18	Smith, A.A.	POLY	225	Smolyanitsky, A.	ENFL	526
Sivula, K.A.	ENFL	6	Smith, A.	COLL	675	Smotkin, E.S.	ANYL	302
Sivula, K.A.	PMSE	266	Smith, A.	INOR	424	Smotkin, E.S.	CATL	470
Siyoum, T.	AGRO	119	Smith, B.	YCC	7	Smyrl, W.H.	ENFL	89
Sizemore, N.	ORGN	451	Smith, B.	COLL	400	Smythe, N.C.	ENFL	558
Sjoblom, N.	BIOL	307	Smith, B.D.	ORGN	664	Snaith, C.	AGRO	194
Sjogren, J.	ANYL	418	Smith, B.D.	ANYL	492	Snajdrova, R.	CATL	108
Skaanderup, P.	MEDI	101	Smith, B.D.	PMSE	354	Snee, P.	INOR	532
Skar-Gislinge, N.	AGFD	158	Smith, C.	AGFD	312	Snow, A.	COLL	729
Skees, A.J.	ENVR	518	Smith, C.J.	BIOL	219	Snowden-Swan, L.	CATL	170
Skees, A.J.	ENVR	752	Smith, C.	ANYL	38	Snurr, R.	CATL	38
Skelton, J.	INOR	132	Smith, C.	ANYL	39	Snyder, B.D.	MEDI	110
Skinner, K.	CINF	44	Smith, C.	ANYL	450	Snyder, B.D.	PMSE	631
Skinner, K.	CINF	47	Smith, C.	ANYL	504	Snyder, C.R.	PMSE	658
Skinner, K.	ORGN	383	Smith, D.J.	AGRO	320	Snyder, E.	INOR	713
Skinner, M.	CHED	188	Smith, D.W.	POLY	213	Snyder, J.	POLY	466
Skinner, W.	POLY	446	Smith, D.F.	ENFL	155	Snyder, J.A.	PHYS	44
Skipper, N.	PHYS	363	Smith, D.	ENVR	72	Snyder, K.	PROF	38
Skipper, N.T.	PHYS	554	Smith, D.	ENVR	373	Snyder, N.J.	AGRO	20
Sklar, L.A.	MEDI	302	Smith, D.	TOXI	43	Snyder, N.J.	AGRO	53
Sklesky, D.	PROF	28	Smith, E.A.	ANYL	269	Snyder, N.L.	CARB	4
Skodje, R.T.	PHYS	231	Smith, E.A.	ANYL	357	Snyder, S.E.	ORGN	510
Skorenko, K.H.	PMSE	804	Smith, E.A.	ANYL	501	So, C.	PMSE	222
Skorupskii, G.	INOR	655	Smith, E.	ORGN	575	So, J.	POLY	607
Skrabalak, S.E.	INOR	269	Smith, E.	PMSE	320	So, R.	ORGN	300
Skreta, M.	ANYL	227	Smith, E.	POLY	470	So, R.	POLY	406
Skripka, A.	COLL	525	Smith, F.N.	NUCL	24	Soar, M.	MEDI	50
Skripka, A.	INOR	578	Smith, G.	MEDI	361	Soares, B.S.	ANYL	516
Skrydstrup, T.	CATL	258	Smith, G.	AGFD	158	Soares, J.W.	AGFD	76
Skúlason, E.	CATL	46	Smith, G.	COLL	405	Soares, J.W.	AGFD	77
Skye, R.	COLL	555	Smith, G.	COLL	772	Soares, J.W.	AGFD	277
Slabon, A.	ENFL	487	Smith, G.	PMSE	65	Soares, J.W.	AGFD	310
Slack, F.	ANYL	203	Smith, G.	POLY	189	Soares, J.W.	AGFD	311
Slack, F.	ANYL	205	Smith, H.	PHYS	136	Soares, J.W.	PMSE	649
Slack, T.	MEDI	243	Smith, H.	PHYS	591	Soares, T.	PMSE	464
Slama, J.	MEDI	174	Smith, I.	POLY	269	Soares Da Costa, D.	CARB	112
Slaughter, G.	ANYL	408	Smith, J.	INOR	401	Soares Da Costa, D.	CARB	113
Slavina, V.	ENVR	145	Smith, J.B.	AGFD	149	Soares Da Costa, D.	COLL	486
Slawek, P.	PMSE	445	Smith, J.L.	AGFD	280	Soares-Da-Silva, P.	MEDI	284
Slawek, P.	PMSE	446	Smith, J.	BIOL	280	Soavi, G.	PHYS	547
Sleiman, H.F.	MPPG	34	Smith, J.	COLL	169	Sobani, M.	COLL	120
Slemmer, M.	CHED	161	Smith, J.	CELL	406	Sobkowicz, M.J.	PMSE	701
Sletten, E.	BIOL	282	Smith, J.	CELL	8	Sobkowicz, M.J.	AGFD	348
Sletten, E.M.	BIOL	266	Smith, J.	CELL	10	Sobkowicz, M.J.	PMSE	665
Sletten, E.M.	ORGN	253	Smith, J.	CELL	13	Sobkowicz, M.J.	PMSE	709
Sletten, E.M.	ORGN	254	Smith, J.G.	PMSE	773	Sobkowicz, M.J.	PMSE	709
Sletten, E.M.	ORGN	254	Smith, J.P.	ANYL	460	Sobkowicz, M.J.	POLY	164
Sletten, E.M.	PMSE	121	Smith, J.	COLL	239	Sobkowitzkline, M.	POLY	62
Sletten, E.M.	POLY	276	Smith, J.S.	COMP	179	Sobus, J.	AGRO	29
Slipchenko, L.V.	PHYS	24	Smith, J.S.	COMP	499	Sobus, J.	AGRO	107
Slipchenko, L.V.	PHYS	51	Smith, J.D.	ORGN	470	Sobus, J.	ANYL	100
Slipchenko, L.V.	PHYS	175	Smith, K.K.	INOR	303	Sobus, J.	ANYL	286
Slipchenko, L.V.	PHYS	182	Smith, K.	AGRO	259	Sodano, T.M.	ORGN	69
Sliwa, M.	COLL	737	Smith, K.	ENFL	536	Sodders, D.	CHED	274
Sliwinski, B.	ENVR	754	Smith, K.	CHAS	52	Sode, K.	ANYL	170
Sliwinski, E.P.	CATL	302	Smith, K.E.	ENFL	387	Sode, K.	ANYL	204
Sloan, J.M.	POLY	449	Smith, K.	AGRO	112	Sode, K.	ANYL	327
Sloane, S.	POLY	455	Smith, K.	ENVR	458	Sode, K.	ANYL	412
Slogar, E.	INOR	773	Smith, L.B.	AGRO	354	Sode, K.	ANYL	425
Sloop, J.	COLL	308	Smith, L.	INOR	133	Soderholm, L.	GEOC	27
Slough, D.	COMP	434	Smith, L.	INOR	136	Sogabe, S.	MEDI	314
Slough, D.	ORGN	164	Smith, L.	INOR	138	Sohail, M.	ENVR	552
Slowing, I.I.	CATL	52	Smith, M.	INOR	147	Sohn, B.	PMSE	456
Slowing, I.I.	ENFL	362	Smith, M.D.	INOR	34	Sohn, H.	ENFL	116
Slusher, B.	MEDI	139	Smith, M.	ENVR	281	Sohn, S.	COLL	575
Slusher, B.	PMSE	686	Smith, M.	PHYS	438	Sojo, L.	MEDI	333
Sluysmans, D.	ANYL	74	Smith, M.R.	ORGN	125	Sojo, L.	MEDI	359

Sok, D.	CARB	73	Song, J.	POLY	580	Southan, C.	CINF	36
Sokkar, P.	INOR	211	Song, J.	ENFL	165	Southan, C.	CINF	67
Sokkar, P.	ORGN	187	Song, J.	INOR	527	Southan, C.	CINF	76
Sokoloff, P.	MEDI	354	Song, K.	INOR	732	Southan, C.	CINF	117
Sokolov, A.P.	PMSE	113	Song, M.	PMSE	714	Southey, M.	MEDI	309
Sokolov, A.P.	PMSE	501	Song, M.	ENFL	63	Southworth, S.	PHYS	217
Sokolov, A.P.	POLY	537	Song, M.	ENFL	165	Soutis, C.	POLY	52
Sokolov, A.P.	POLY	542	Song, M.	ENVR	715	Souza, H.Y.	CHED	71
Sokolov, A.N.	PMSE	332	Song, Q.	ANYL	114	Souza, P.C.	MEDI	118
Sokolov, I.	ANYL	262	Song, Q.	COMP	576	Souza, S.	MEDI	311
Sokolov, I.	COLL	787	Song, R.	PMSE	193	Sow, M.	INOR	238
Sokalsky-Papkov, M.	CINF	143	Song, S.	ENVR	575	Sowan, N.	POLY	418
Sokarai, K.	AGFD	131	Song, S.	ENVR	648	Sowers, K.L.	ENFL	396
Solà, M.	ORGN	536	Song, S.	COMP	89	Soyode-Johnson, A.	MEDI	131
Solà, M.	PHYS	405	Song, W.	ANYL	307	Spacciapoli, P.	MEDI	24
Solaiman, D.	AGFD	242	Song, W.	ENVR	284	Space, B.	COMP	37
Solanki, A.	ENVR	747	Song, W.	COMP	277	Spadaccini, C.	MPPG	114
Solano, D.M.	CHED	309	Song, W.	ENVR	774	Spain, E.M.	CHED	173
Solano, E.	COLL	679	Song, X.	PMSE	691	Spain, E.M.	COLL	528
Solban, N.	MEDI	24	Song, X.	MEDI	24	Spain, S.G.	PMSE	336
Soldavini, A.	AGFD	306	Song, Y.	ENVR	548	Spain, S.G.	POLY	83
Soldermann, N.G.	MEDI	85	Song, Y.	PMSE	504	Spandan, V.	COLL	71
Soleilhavoup, M.	INOR	621	Song, Y.	PMSE	666	Spangler, J.	MEDI	282
Soles, C.L.	PMSE	156	Song, Y.	CELL	28	Spano, F.C.	PHYS	1
Soles, C.L.	POLY	102	Song, Y.	PMSE	543	Sparks, C.	ENFL	17
Soleta, D.D.	AGRO	226	Song, Y.	PMSE	730	Sparks, D.L.	AGFD	329
Soleymani, L.	ANYL	227	Song, Y.	POLY	168	Sparks, D.L.	AGRO	284
Soleymani, L.	ANYL	345	Song, Y.S.	PMSE	486	Sparks, J.	PMSE	215
Solhtalab, M.	CATL	336	Song, Y.	COLL	101	Sparks, J.	POLY	158
Soliev, A.	ENVR	745	Song, Y.	PMSE	337	Sparks, T.C.	AGRO	2
Soliman, S.E.	CARB	98	Song, Y.	PMSE	751	Sparr, C.	ORGN	319
Soliman, S.E.	CARB	50	Song, Y.	POLY	190	Spatz, D.S.	AGRO	229
Solomon, B.	ENVR	281	Song, S.	PMSE	364	Spatz, D.S.	AGRO	230
Solomon, E.I.	INOR	605	Songkakul, T.	ANYL	328	Spatz, D.S.	AGRO	333
Solomon, E.I.	PHYS	54	Songkiatisak, P.	ANYL	4	Spaulding, A.	CHED	257
Solomos, M.	INOR	657	Songkiatisak, P.	ANYL	314	Spaulding, A.	MEDI	37
Soltani, O.	ORGN	540	Songstad, D.	AGFD	342	Spear, J.	ENVR	91
Soltantabar, P.	COLL	626	Soni, C.S.	ANYL	97	Specht, P.	CATL	22
Soltau, S.R.	INOR	397	Soni, C.S.	ANYL	168	Spector, D.	MEDI	404
Soltis, J.A.	COLL	86	Soni, C.S.	I&EC	50	Speed, J.	CATL	449
Soltis, J.A.	GEOC	41	Sonnenberg, J.L.	NUCL	85	Speed, J.	CELL	7
Soltis, J.A.	GEOC	62	Sönnichsen, F.D.	PHYS	391	Speed, J.	I&EC	44
Soltis, J.A.	GEOC	63	Sonpal, A.	COMP	300	Speed, J.	SCHB	32
Soltwedel, T.	ENVR	83	Sonnier, C.	MEDI	354	Speghini, A.	INOR	578
Somararatne, R.	COLL	152	Sonzini, S.	COLL	21	Speight, I.R.	ORGN	429
Somas, M.	AGRO	340	Soo Bong, H.	MEDI	125	Spellman, C.D.	ENVR	20
Somasundaram, L.	ENVR	621	Soo Bong, H.	MEDI	202	Spellman, N.	CHED	142
Somasundaran, P.	CATL	37	Soobryan, T.	ORGN	575	Spence, J.	PHYS	341
Somasundaran, P.	COMP	11	Sood, A.	MPPG	49	Spencer, D.	POLY	21
Somayazulu, M.	PHYS	585	Soohoo-Hui, A.	AGRO	355	Spencer, H.	INOR	640
Somersan Karakaya, S.	MEDI	116	Sooksimuang, T.	AGFD	296	Spencer, J.A.	INOR	633
Sommer, M.	PMSE	661	Sooksimuang, T.	INOR	551	Spencer, L.	PMSE	332
Sommer, Y.L.	ANYL	547	Sooksimuang, T.	INOR	673	Spencer-Briggs, J.L.	ORGN	95
Somoza, V.	AGFD	198	Soong, Y.	ENVR	106	Spendelow, J.	ENFL	124
Somoza, V.	AGFD	234	Soong, Y.	ENVR	107	Spendio, E.	CHED	325
Somoza, V.	AGFD	239	Soper, A.	PHYS	554	Sperline, R.P.	ANYL	517
Son, D.Y.	PMSE	440	Sorensen, E.J.	ORGN	499	Spernyak, J.	INOR	713
Son, D.Y.	POLY	604	Sorensen, H.	ANYL	173	Sperry, J.	ORGN	4
Son, D.H.	PHYS	152	Sorensen, H.O.	ENVR	136	Spicer, C.	PMSE	625
Son, H.	COLL	228	Sorensen, P.M.	CHED	114	Spiegel, D.A.	BIOL	160
Son, J.	ANYL	160	Sorensen, P.M.	CHED	134	Spies, J.	ENVR	109
Son, J.	COLL	294	Sorescu, D.	COMP	572	Spiesschaert, Y.	POLY	110
Son, J.	CATL	508	Sorescu, D.	PHYS	496	Spiewak, A.M.	ORGN	469
Son, Y.	ENFL	510	Sorgo, R.	BIOL	228	Spilling, C.D.	ORGN	147
Sondel, P.	BIOL	130	Sorgo, R.	MEDI	422	Spilling, C.D.	ORGN	148
Song, B.	ORGN	666	Sorin, E.J.	COMP	267	Spinello, A.	INOR	63
Song, C.	PMSE	444	Sorrell, C.C.	CATL	285	Spinrock, A.	POLY	177
Song, C.	CATL	77	Sorrell, F.	MEDI	160	Spinu, L.	INOR	464
Song, C.	ENFL	67	Sorsor, V.	PMSE	429	Spisak, S.N.	INOR	341
Song, C.	INOR	240	Sorte, E.G.	PRES	28	Spitale, R.C.	BIOL	126
Song, D.	INOR	720	Sortwell, C.E.	ENFL	488	Spitale, R.C.	BIOL	129
Song, D.	INOR	130	Sosa-Pintos, A.	ENVR	600	Spiteller, M.	ENFL	538
Song, D.	INOR	321	Sosnowski, B.	ENVR	754	Spitzer, D.	POLY	120
Song, D.	INOR	650	Sostarecz, A.	MEDI	195	Spitzer, J.J.	CATL	134
Song, F.	INOR	196	Sotelo, D.	ORGN	389	Spivey, J.J.	ENFL	98
Song, H.	ENFL	489	Sotiriou-Leventis, C.	INOR	745	Spivey, J.	INOR	541
Song, H.	AGFD	195	Sotiriou-Leventis, C.	INOR	746	Spokoyne, A.M.	PMSE	660
Song, H.	POLY	538	Sotiriou-Leventis, C.	INOR	748	Spolidorio, L.C.	AGFD	252
Song, H.	COLL	265	Sotiriou-Leventis, C.	PMSE	679	Sponsler, M.B.	POLY	571
Song, H.	INOR	189	Soto, C.M.	COLL	403	Spontak, R.J.	CELL	60
Song, J.	PHYS	427	Soto, J.	COLL	487	Spontak, R.J.	PMSE	546
Song, J.	ANYL	323	Soto, N.	COLL	295	Sponza Mata, A.D.	PMSE	417
Song, J.	ENVR	55	Sottos, N.R.	MPPG	115	Spoon, T.	COLL	708
Song, J.	PMSE	480	Sottos, N.R.	POLY	53	Spormann, A.	CATL	36
Song, J.	INOR	59	Soudackov, A.	CATL	456	Spormann, C.	COLL	532
Song, J.	MEDI	244	Souffrant, M.G.	COMP	269	Spradlin, M.	AGRO	303
Song, J.	PHYS	582	Soukri, M.	CATL	486	Sprengle, V.L.	ENFL	92
Song, J.	AGFD	141	Soukri, M.	CATL	510	Sprengle, V.L.	ENFL	165
Song, J.	COLL	799	Soule, J.	POLY	62	Sprick, R.	ENFL	454
Song, J.	ENFL	52	Soule, J.	BIOL	194	Spring, D.R.	BIOL	304
Song, J.	ENVR	776	Sourav, S.	CATL	423	Spring, D.R.	ORGN	13
Song, J.	PMSE	632	Sousa, A.	AGFD	246	Spring, D.R.	ORGN	62
Song, J.	POLY	32	Sousa, L.D.	CELL	9	Springen, D.	MPPG	68
Song, J.	PHYS	505	Southall, N.	CINF	121	Spurgeon, S.	GEOC	63

Spurgeon, S.	NUCL	80	Starks, C.	ORGN	649	Stepanov, I.	TOXI	81
Spurlock, F.C.	AGRO	298	Starobin, J.	PMSE	509	Stephan, C.	COLL	24
Squire, S.E.	MEDI	289	Starovoytova, L.	POLY	316	Stephan, H.	INOR	416
Squires, M.E.	CHED	146	Starr, H.	INOR	255	Stephen, S.	INOR	736
Sresht, V.	COMP	140	Starr, R.	POLY	480	Stephen, S.	INOR	737
Sridharan, R.	COLL	696	Startek, M.	CINF	145	Stephens, B.	COLL	737
Srifa, P.	COMP	474	Stasevych, M.	MEDI	402	Stephens, N.	ENFL	51
Srinivasan, M.	INOR	670	Staskawicz, B.	AGFD	173	Stephenson, C.	ENFL	397
Srinivasan, P.D.	CATL	169	Stasko, D.	INOR	742	Stephenson, C.	ORGN	69
Srinivasan, R.R.	CHED	206	Stasyuk, A.J.	PHYS	405	Stephenson, C.	ORGN	71
Srinivasan, V.	GEOC	15	Stathias, V.	CINF	141	Stephenson, C.	ORGN	269
Sriram, A.	CHED	44	Stauber, J.	INOR	72	Stephenson, C.	ORGN	401
Sriram, V.	COLL	781	Staupe, I.	COLL	117	Stephenson, C.	ORGN	410
Sriram, V.	ENVR	26	Staveness, D.	ORGN	69	Stepniewska-Dziubinska, M.	CINF	123
Sriram, V.	ENVR	433	Staveness, D.	ORGN	269	Stergiou, N.	PMSE	768
Sriram, V.	ENVR	437	Stavinoha, M.	INOR	440	Sterimbaum, G.	CHED	91
Sritharan, D.	COMP	148	Stavitski, E.	CATL	256	Sterling, K.	INOR	771
Srivastava, A.	MEDI	301	Stavitski, E.	CATL	468	Stern, A.J.	AGRO	238
Srivastava, K.	ORGN	505	Stavitski, E.	ENVR	109	Stern, H.	TOXI	59
Srivastava, P.	MEDI	65	Stavitski, E.	ENVR	435	Stern, M.	CELL	27
Srivastava, P.S.	COMP	566	Stavretis, S.	INOR	360	Stern, M.	CHED	199
Srivastava, R.	COMP	304	Stavropoulos, P.	INOR	691	Stetina, K.C.	AGRO	330
Srivastava, R.	COMP	309	Stear, C.	ENVR	749	Stetina, T.	COMP	52
Sromek, A.W.	MEDI	74	Stebe, K.J.	COLL	560	Stetina, T.F.	PHYS	279
Sromek, A.W.	MEDI	119	Stebe, K.J.	POLY	78	Steuart, S.	MPPG	106
St. Amant, C.	CHED	312	Steber, A.	PHYS	135	Steuale, F.	MEDI	95
St. Germain, E.J.	CHED	300	Steber, A.	PHYS	559	Stevanovic Janezic, T.	CELL	76
St. John, P.	COMP	98	Stebounova, L.V.	ENVR	157	Stevenato, G.	INOR	127
St. John, P.	ENFL	419	Stec, J.	YCC	1	Stevens, C.V.	CINF	166
St. Onge, J.	SCHB	27	Stec, M.	POLY	7	Stevens, E.	CHED	293
Staben, L.R.	MEDI	16	Steckel, L.	AGRO	270	Stevens, K.C.	INOR	191
Stach, E.	CATL	15	Stedman, K.M.	COLL	314	Stevens, K.C.	INOR	572
Stach, E.	CATL	253	Stedtfeld, R.	ENVR	156	Stevens, K.C.	MEDI	180
Stach, E.	INOR	489	Steel, P.G.	BIOL	318	Stevens, M.J.	PRES	30
Stachowiak, J.	COLL	645	Steel, P.G.	MEDI	39	Stevens, M.	ANYL	234
Stack, A.G.	GEOC	28	Steel, P.G.	ORGN	558	Stevens, M.	PMSE	625
Stack, A.G.	GEOC	37	Steele, A.	BIOL	310	Stevenson, J.	COMP	28
Stack, A.G.	GEOC	46	Steele, A.	MEDI	136	Stevenson, K.J.	PHYS	347
Stadnytski, V.	PHYS	51	Steele, J.C.	ENVR	516	Stevenson, M.	TOXI	28
Stæhr Haugaard, A.	MEDI	137	Steele, J.C.	ENVR	784	Stevenson, T.M.	AGRO	173
Staelens, G.	COLL	123	Steer, R.	PHYS	516	Stevenson, T.M.	AGRO	207
Stafford, C.M.	PMSE	197	Steeves, D.M.	PMSE	649	Stewart, A.	MEDI	282
Stafford, D.	MEDI	189	Steeves, T.M.	CATL	30	Stewart, D.	CATL	84
Stafford, J.	MEDI	370	Stefan, M.C.	COLL	626	Stewart, H.	ORGN	62
Stahl, B.	CARB	13	Stefan, M.C.	POLY	347	Stewart, J.	POLY	16
Stahl, S.S.	ORGN	227	Stefan, M.C.	POLY	354	Stewart, J.M.	AGRO	261
Stahl, S.S.	CATL	493	Stefanisko, K.	MEDI	210	Stewart, P.L.	COLL	90
Stahl, T.	COMP	337	Stefano, D.	PHYS	547	Stewart, R.	COMP	582
Stahl, V.L.	CARB	10	Steffel, J.	AGRO	387	Steyer, D.	ORGN	410
Staker, J.	COMP	345	Steffen, M.	CARB	99	St-Gelais, J.	CARB	38
Stall, S.	CINF	87	Stefik, M.	POLY	473	Stoer, A.P.	COLL	154
Stallworth, P.	ENFL	518	Stefik, M.	POLY	581	Stieber, S.E.	INOR	420
Stallworth, P.	PMSE	67	Steger, H.	INOR	290	Stijn, V.	ENVR	504
Stamatakis, M.	CATL	407	Steger, H.	INOR	296	Stillinger, F.	COMP	29
Stamatakis, M.	COLL	147	Steiger, P.	CATL	83	Stingelin, N.	PMSE	622
Stamatin, R.E.	ORGN	153	Steimle, B.	COLL	359	Stingley, K.J.	ORGN	110
Stamenkovic, V.	CATL	471	Stein, A.	ENFL	89	Stiufiuc, G.	COLL	40
Stamplecoskie, K.	COLL	573	Stein, A.	INOR	248	Stiufiuc, G.	COLL	243
Stanek, J.	INOR	234	Stein, B.D.	CHED	218	Stiufiuc, R.	COLL	40
Stange, U.C.	PHYS	391	Stein, B.D.	COLL	296	Stiufiuc, R.	COLL	243
Staniland, S.	INOR	576	Stein, G.	COLL	758	Stivala, C.E.	MEDI	340
Stankus, B.M.	PHYS	9	Stein, G.	ENVR	490	Stockdill, J.L.	ORGN	153
Stankus, B.M.	PHYS	11	Stein, G.	PMSE	62	Stockenhuber, M.	ENFL	431
Stankus, B.M.	PHYS	336	Stein, I.Y.	COLL	42	Stockmal, K.A.	POLY	436
Stankus, B.M.	PHYS	383	Stein, J.	ANYL	552	Stockman, R.A.	MEDI	272
Stankus, B.M.	PHYS	430	Stein, J.	INOR	205	Stockton, A.M.	ANYL	459
Stanley, C.	PROF	2	Stein, L.M.	POLY	92	Stoddard, A.K.	ENVR	237
Stanley, R.H.	INOR	480	Stein, R.	CELL	15	Stoddard, J.F.	ANYL	74
Stansbury, J.W.	PMSE	295	Steinbeck, C.	CINF	63	Stoddard, J.F.	MPPG	78
Stansbury, J.W.	PMSE	371	Steindl, P.	PMSE	696	Stoddard, J.F.	ORGN	422
Stansbury, J.W.	POLY	573	Steiner, C.	PHYS	128	Stoddard, J.F.	ORGN	509
Stansfield, R.	MEDI	370	Steiner, E.	ORGN	656	Stoddard, J.F.	ORGN	676
Stanton, A.	ENFL	301	Steiner, S.	COLL	42	Stoddard, J.F.	ORGN	678
Stanton, A.	POLY	140	Steiner, U.	PMSE	142	Stoddard, J.F.	PMSE	170
Stanton, J.	POLY	244	Steingart, D.	ENFL	45	Stoddard, J.F.	POLY	38
Stanton, J.F.	PHYS	23	Steingart, D.	PHYS	286	Stoddard, J.F.	POLY	551
Stanton, M.	MEDI	445	Steinhaus, A.	POLY	278	Stoerzinger, K.A.	CATL	98
Stanton, S.	BIOL	27	Steinhoff, B.	ENVR	362	Stoian, S.	COLL	44
Stanzione, J.F.	AGFD	322	Steinle, T.	PHYS	207	Stoian, S.	INOR	653
Stanzione, J.F.	AGFD	324	Steinrueck, H.	CATL	122	Stoick, E.	GEOC	69
Stanzione, J.F.	POLY	207	Stelinski, L.L.	AGRO	174	Stojakovi, J.	COLL	508
Stapelfeldt, H.	PHYS	36	Stellmacher, R.	PHYS	327	Stojanovic, M.	ANYL	178
Staples, R.J.	INOR	152	Stellwagen, D.	CATL	104	Stojanovic, M.	ANYL	426
Stapleton, J.	AGRO	279	Stelter, D.	CHED	366	Stojanovic, M.	MPPG	70
Stappenbeck, T.	BIOL	302	Stenger, D.A.	ANYL	224	Stojkovic, E.	PROF	39
Starace, A.	ENFL	299	Stenger, J.	INOR	641	Stokes, B.J.	ORGN	185
Starchenko, V.	GEOC	37	Stenger-Smith, J.D.	POLY	256	Stokes, D.	ANYL	517
Stark, A.	INOR	628	Stenhouse, P.J.	PMSE	649	Stoklosa, R.J.	AGFD	248
Stark, R.E.	AGFD	189	Stenlund, P.	PMSE	724	Stol, M.	POLY	589
Stark, R.E.	CHED	48	Stepan, A.F.	ORGN	290	Stolarik, D.	MEDI	369
Stark, S.	INOR	40	Stepanek, P.	POLY	315	Stolbov, L.	COMP	151
Starke-Reed, P.	AGFD	274	Stepanov, I.	TOXI	12	Stolee, J.	ANYL	521
Starkov, P.	BIOL	255	Stepanov, I.	TOXI	38	Stollmann, A.	INOR	530
Starkov, P.	CATL	202	Stepanov, I.	TOXI	64	Stolow, A.	PHYS	76

Stolow, A.	PHYS	138	Strmcnik, D.	CATL	471	Su, R.	COLL	342
Stolow, A.	PHYS	262	Strobel, T.A.	PHYS	186	Su, R.	BIOL	210
Stoltz, B.M.	ENVR	670	Stroberg, W.	CINF	33	Su, S.	CATL	294
Stolz, R.	PROF	40	Stromer, B.	ENVR	79	Su, T.A.	INOR	65
Stone, A.T.	ENVR	342	Stromer, B.S.	COLL	253	Su, W.	AGRO	260
Stone, M.	PHYS	403	Stromyer, M.L.	INOR	153	Su, X.	COLL	422
Stone, M.P.	TOXI	106	Strong, E.	ANYL	9	Su, X.	PMSE	549
Stone, W.W.	AGRO	21	Strongin, D.R.	COLL	428	Su, X.	INOR	557
Stoner, B.R.	ANYL	517	Strongin, D.R.	COLL	499	Su, X.	INOR	747
Storer, I.	CINF	169	Strongin, D.R.	COLL	685	Su, X.	PMSE	752
Stornetta, A.	TOXI	56	Strongin, D.R.	ENFL	499	Su, X.	ENVR	524
Stott, G.M.	MEDI	301	Strongin, R.M.	ANYL	535	Su, Y.	PHYS	75
Stott, G.M.	MEDI	302	Strongin, R.M.	CHAS	49	Su, Z.	ENFL	372
Stottrup, B.	CHED	115	Stroud, P.	ANYL	38	Suas-David, N.	PHYS	371
Stoumpos, C.	INOR	441	Stroupe, Z.	ENFL	298	Suazo, K.F.	ORGN	197
Stout, D.	CINF	54	Strouse, G.F.	ANYL	553	Suazo, M.	INOR	675
Stout, D.	COMSCI	3	Strouse, G.F.	COLL	44	Subedi, B.	ENVR	511
Stout, D.	ORGN	262	Strouse, G.F.	INOR	411	Subedi, B.	ENVR	518
Stout, S.L.	MEDI	330	Strouse, G.F.	INOR	415	Subedi, B.	ENVR	751
Stover, H.D.	PMSE	453	Strouse, G.F.	INOR	741	Subedi, B.	ENVR	752
Stover, H.D.	POLY	174	Strouse, G.F.	INOR	756	Subedi, P.	ANYL	437
Stowell, A.	MEDI	25	Struble, T.	CINF	168	Subedi, S.	ANYL	312
Stowers, C.	AGRO	130	Struve, K.	COMP	106	Subjaleardee, N.	ENVR	837
Stowers, K.J.	ENFL	310	Struwe, W.	CARB	16	Subramaniam, S.	CATL	402
Stowers, K.J.	I&EC	23	Stryker, J.	AGRO	236	Subramanian Parimalam, B.	ANYL	522
Stracener, D.	NUCL	8	Strynar, M.	ENVR	42	Subratti, A.	CARB	126
Tracey, N.	INOR	772	Strynar, M.	ENVR	43	Sucheck, S.J.	CARB	116
Strachan, S.	AGRO	296	Strynar, M.	ENVR	115	Sucheck, S.J.	ORGN	297
Strahan, J.	PHYS	155	Strynar, M.	ENVR	184	Suchinsky, H.	CHED	272
Strahl, B.D.	MEDI	54	Strytsky, A.	POLY	294	Suciani, I.	ENVR	383
Straif-Bourgeois, S.	ENVR	149	Stuart, R.	CHAS	32	Suciu, A.	COMP	361
Straiker, A.	MEDI	87	Stuart, R.	CHAS	33	Sudduth, B.	CATL	242
Straley, E.	PHYS	303	Stuart, R.	CINF	58	Sudduth, B.	COLL	427
Straney, P.	COLL	675	Stuart, R.	PRES	1	Sudhakar, N.	MEDI	144
Strange, N.A.	COLL	79	Stuart, R.	PRES	8	Sudowe, R.	NUCL	61
Strange, N.A.	ENFL	298	Stubbe, J.	BIOL	142	Sudre, G.	COLL	339
Stranick, S.	PMSE	273	Stubbe, J.	BIOL	285	Sudyn, A.W.	CHED	55
Stranick, S.	PMSE	271	Stubbe, J.	SOCEAD	1	Sue, H.	PMSE	219
Strano, M.	ANYL	255	Stubbs, C.	POLY	272	Sue, H.	PMSE	227
Strano, M.	ANYL	330	Stubbs, C.	PMSE	56	Sue, H.	PMSE	286
Strano, M.	COLL	36	Stubbs, C.	PMSE	129	Sue, H.	PMSE	365
Strano, M.	COLL	170	Stubbs, C.	PMSE	341	Sue, H.	PMSE	619
Strano, M.	COLL	286	Stubbs, C.	PMSE	419	Suen, L.	WCC	2
Strano, M.	COLL	577	Stubbs, C.	PMSE	420	Suen, P.	BIOL	178
Strano, M.	COLL	608	Stubbs, J.	GEOC	59	Suen, P.	BIOL	236
Strano, M.	COLL	668	Stubelius, A.	COLL	600	Suess, R.	PHYS	392
Strano, M.	COLL	740	Stubenrauch, C.	PMSE	673	Suetake, M.	GEOC	54
Strano, M.	COMP	418	Stucke, V.	MEDI	101	Suetake, M.	NUCL	41
Strano, M.	ENFL	34	Stuckey, J.I.	MEDI	54	Sugar, J.D.	INOR	140
Strano, M.	ENFL	506	Stuckey, J.I.	MEDI	292	Sugimoto, H.	COMP	329
Strano, M.	ENVR	835	Stuckman, M.	ENVR	106	Sugimoto, R.	AGFD	7
Strano, M.	GEOC	10	Stuecker, T.N.	PMSE	522	Suginome, M.	PMSE	130
Strano, M.	MPPG	75	Stuhl, C.	AGRO	215	Sugita, Y.	COMP	19
Strano, M.	ORGN	416	Stull, J.A.	PMSE	551	Sugita, Y.	COMP	65
Strano, M.	PHYS	535	Stumme, N.	CHED	250	Sugita, Y.	COMP	329
Strano, M.	PMSE	71	Stumpo, K.A.	ANYL	127	Sugita, Y.	COMP	399
Strano, M.	PMSE	257	Stumpo, K.A.	ANYL	555	Sugita, Y.	COMP	503
Straßburger, D.	PMSE	768	Stunkel, J.	CARB	70	Sugiura, H.	ORGN	54
Strasser, D.	ENFL	319	Sturchio, N.C.	CATL	363	Sugiyama, M.	MEDI	73
Strathmann, T.J.	ENFL	479	Sturdivant, J.M.	GEOC	52	Sugiyama, T.	ORGN	161
Strathmann, T.J.	ENVR	177	Sturlis, S.M.	BIOL	264	Suh, H.	CATL	322
Strathmann, T.J.	ENVR	225	Sturm, B.	BIOL	221	Suh, J.	ANYL	147
Strathmann, T.J.	ENVR	230	Sturmer, M.A.	ENVR	241	Suh, J.	ANYL	525
Strathmann, T.J.	ENVR	391	Stutts, D.	INOR	460	Suh, J.L.	MEDI	54
Stratis-Cullum, D.	COLL	412	Stutz, A.	CHED	141	Suh, M.	ENVR	396
Stratton, T.P.	MEDI	268	Stwodah, R.	MEDI	4	Suhail, S.	POLY	320
Straub, J.E.	POLY	94	Su, C.	COLL	279	Suhara, Y.	ORGN	161
Straus, D.B.	PHYS	459	Su, C.	CHED	58	Suhara, Y.	ORGN	394
Strauss, E.	MEDI	117	Su, C.	ORGN	415	Suhling, K.	POLY	486
Strawhecker, K.E.	POLY	456	Su, C.	COLL	122	Suib, S.L.	CATL	314
Streb, C.	INOR	193	Su, C.Y.	CARB	73	Suib, S.L.	CATL	350
Strebl, M.	NUCL	51	Su, C.	ENVR	217	Suib, S.L.	CATL	440
Strecker, T.E.	MEDI	97	Su, C.	ENVR	594	Suib, S.L.	CATL	441
Streeter, M.	BIOL	160	Su, D.	COLL	655	Suib, S.L.	CATL	448
Strehlau, J.H.	GEOC	41	Su, D.	ENFL	130	Suib, S.L.	COLL	426
Strehmel, B.	PMSE	593	Su, D.	PRES	14	Suib, S.L.	COMP	309
Strehmel, B.	POLY	519	Su, G.	CATL	48	Suib, S.L.	INOR	33
Strehmel, V.	POLY	519	Su, G.	CATL	261	Suib, S.L.	INOR	170
Streisel, D.	INOR	514	Su, G.	PMSE	204	Suib, S.L.	INOR	408
Streit, J.	POLY	215	Su, G.	PMSE	316	Suib, S.L.	INOR	483
Streit, J.	POLY	401	Su, G.	ENVR	831	Suits, A.G.	PHYS	268
Strem, M.E.	CHED	373	Su, H.	PHYS	45	Suits, A.G.	PHYS	371
Strezov, V.	ENFL	304	Su, H.	ANYL	72	Sukhishvili, S.A.	COLL	157
Stricker, F.	POLY	124	Su, H.	BIOL	257	Sukhishvili, S.A.	COLL	717
Striegel, M.	POLY	45	Su, J.	CHED	206	Sukhishvili, S.A.	PMSE	183
Striegler, S.	BIOL	81	Su, J.	COLL	122	Sukhishvili, S.A.	PMSE	314
Striegler, S.	CARB	7	Su, L.	AGRO	18	Sukhishvili, S.A.	PMSE	523
Striegler, S.	CARB	23	Su, L.	ENVR	688	Sukhishvili, S.A.	PMSE	728
Striegler, S.	CARB	24	Su, L.	PMSE	337	Sukhishvili, S.A.	POLY	395
Striegler, S.	CARB	107	Su, L.	PMSE	751	Sul, S.	INOR	468
Striegler, S.	ORGN	198	Su, L.	POLY	190	Sulok, M.	INOR	764
Striegler, S.	ORGN	385	Su, N.	MEDI	70	Suleiman, D.	POLY	471
Striegler, S.	POLY	377	Su, P.	ANYL	82	Suleimanov, Y.V.	PHYS	575
Striegler, S.	POLY	410	Su, P.	ANYL	86	Sulikowski, G.A.	MEDI	302

Sulkanen, A.	MPPG	115	Sun, M.	ANYL	323	Suo, Z.	TOXI	14
Sullivan, A.H.	CHED	246	Sun, M.	ENVR	55	Supalo, C.A.	PROF	48
Sullivan, D.A.	AGRO	80	Sun, M.	ENVR	462	Super, J.D.	CATL	170
Sullivan, D.A.	AGRO	237	Sun, P.	ENVR	350	Suppan, K.	ORGN	128
Sullivan, D.A.	AGRO	272	Sun, Q.	I&EC	33	Supuran, C.T.	COLL	708
Sullivan, M.O.	COLL	394	Sun, R.	POLY	195	Supuran, C.T.	MEDI	188
Sullivan, M.O.	POLY	64	Sun, R.	CELL	20	Sur, R.	AGRO	47
Sullivan, R.	CHED	267	Sun, S.	BIOL	192	Sur, S.	PHYS	176
Sullivan, R.D.	AGRO	80	Sun, S.	MEDI	64	Sur, Y.	INOR	732
Sullivan, R.D.	AGRO	237	Sun, S.	ENVR	18	Surendran Assary, R.	ENFL	203
Sullivan, R.D.	AGRO	272	Sun, S.	POLY	274	Surendranath, Y.	CATL	213
Sullivan, S.	CHED	229	Sun, S.	CATL	193	Surendranath, Y.	ENFL	552
Sulman, A.	COLL	296	Sun, S.	CATL	426	Surendranath, Y.	ENVR	440
Sulman, E.	COLL	296	Sun, S.	CATL	472	Surendranath, Y.	INOR	104
Sultan, M.M.	WCC	5	Sun, S.	CHED	283	Suresh, R.	ENFL	307
Sultana, S.	ENVR	484	Sun, S.	COLL	173	Suri, S.C.	ORGN	606
Sultana, T.	ENFL	449	Sun, S.	COLL	496	Suriboat, J.	PMSE	656
Sulzer, D.	BIOL	158	Sun, S.	ENFL	124	Suriyapraphadilok, U.	ENFL	247
Sumerlin, B.S.	PMSE	293	Sun, S.	ENFL	129	Suriyapraphadilok, U.	ENFL	270
Sumerlin, B.S.	POLY	90	Sun, S.	ENFL	128	Suriyapraphadilok, U.	ENFL	271
Sumerlin, B.S.	POLY	115	Sun, S.	ORGN	420	Suriyapraphadilok, U.	ENFL	272
Sumerlin, B.S.	POLY	121	Sun, S.	CATL	186	Suriyapraphadilok, U.	ENFL	273
Sumerlin, B.S.	POLY	332	Sun, S.	CATL	188	Suriyapraphadilok, U.	I&EC	60
Sumerlin, B.S.	POLY	577	Sun, T.	PMSE	193	Surmaitis, R.	COLL	415
Sumitomo, K.	COLL	642	Sun, W.	ANYL	248	Surmaitis, R.	PMSE	184
Sumkaria, D.	MEDI	216	Sun, W.	AGRO	36	Surnar, B.	INOR	190
Summers, D.M.	MEDI	208	Sun, W.	ENVR	354	Surnar, B.	INOR	471
Summers, D.M.	MEDI	271	Sun, W.	ORGN	59	Surnar, B.	MEDI	173
Sumner, C.	ANYL	396	Sun, W.	COMP	287	Surujdin, R.	MEDI	385
Sumner, R.A.	CHED	278	Sun, W.	COMP	373	Suryanto, B.	ENFL	113
Sumner, R.A.	CHED	287	Sun, W.	COMP	524	Susarla, S.	ENVR	335
Sumner, R.A.	ENFL	296	Sun, X.	CATL	186	Sushkevich, V.	CATL	421
Sun, Y.	ENFL	192	Sun, X.	INOR	189	Susumu, K.	COLL	441
Sun, A.	ORGN	71	Sun, X.	MEDI	440	Susumu, K.	COLL	704
Sun, A.	ORGN	401	Sun, X.	PMSE	734	Suthar, K.	COLL	762
Sun, A.	ORGN	410	Sun, X.	ENVR	709	Sutherland, B.P.	PMSE	52
Sun, B.	AGFD	313	Sun, X.	ENFL	524	Sutherland, B.P.	POLY	389
Sun, B.	MEDI	66	Sun, X.	AGFD	175	Sutherland, W.	MEDI	322
Sun, B.	ENVR	585	Sun, X.	ANYL	550	Sutherland, D.P.	MEDI	278
Sun, C.	ENVR	191	Sun, X.	CARB	79	Sutimantanapi, D.	MEDI	21
Sun, C.	ENVR	413	Sun, Y.	COLL	259	Sutrisno, A.	ENVR	780
Sun, C.	ENVR	83	Sun, Y.	COLL	414	Sutton, A.	POLY	497
Sun, C.	ENFL	261	Sun, Y.	PHYS	568	Sutton, C.	ORGN	567
Sun, C.	ENFL	280	Sun, Y.	POLY	355	Sutton, C.	PHYS	449
Sun, C.	PMSE	608	Sun, Y.	PHYS	113	Sutton, J.E.	CATL	223
Sun, C.	ENVR	464	Sun, Y.	CATL	286	Sutton, J.E.	ENVR	29
Sun, C.	ENVR	538	Sun, Y.	INOR	240	Sutton, S.C.	MEDI	282
Sun, D.	MEDI	21	Sun, Y.	ENVR	256	Sutyak, J.	CATL	272
Sun, D.	PMSE	366	Sun, Y.	ENVR	702	Suuronen, E.J.	PMSE	775
Sun, D.	PMSE	436	Sun, Y.	ENVR	703	Suzuki, K.	ENVR	733
Sun, D.	PMSE	695	Sun, Y.	MEDI	130	Suzuki, M.	POLY	363
Sun, D.	PMSE	362	Sun, Y.	ENVR	226	Suzuki, M.	ORGN	535
Sun, D.	PMSE	627	Sun, Y.	PMSE	221	Suzuki, N.	ANYL	412
Sun, F.	ENFL	456	Sun, Y.	ENFL	192	Suzuki, R.	ORGN	572
Sun, F.	AGRO	162	Sun, Y.	CATL	357	Suzuki, T.	COLL	176
Sun, F.	ENVR	382	Sun, Y.	ENFL	453	Suzuki, T.	ORGN	625
Sun, G.	ANYL	95	Sun, Y.	CATL	282	Suzuki, Y.	ANYL	502
Sun, G.	ENVR	192	Sun, Y.	ENFL	134	Suzuki, Y.	MEDI	73
Sun, G.	ENVR	602	Sun, Y.	CATL	263	Suzuki, Y.	PMSE	547
Sun, G.	COLL	229	Sun, Y.	ENFL	217	Swagan, A.	CELL	29
Sun, G.	PMSE	332	Sun, Y.	COLL	731	Svärd, A.	CELL	27
Sun, H.	AGRO	150	Sun, Z.	PHYS	281	Svensson, K.A.	MEDI	321
Sun, H.	ENVR	697	Sun, Z.	ENVR	696	Svergun, D.I.	POLY	316
Sun, H.	PHYS	6	Sun, Z.	INOR	691	Svitlyk, V.	PHYS	395
Sun, H.	MEDI	279	Sun, Z.	INOR	379	Svoronos, P.D.	CHED	140
Sun, H.	POLY	90	Sun, Z.	AGFD	137	Svoronos, P.D.	CHED	141
Sun, H.	COLL	122	Sundahl, B.	COMP	56	Svoronos, P.D.	CHED	144
Sun, H.	ENVR	560	Sundararajan, P.	PHYS	194	Svoronos, P.D.	CHED	226
Sun, H.	INOR	531	Sundell, B.J.	ENFL	365	Svoronos, P.D.	CHED	228
Sun, H.	CINF	66	Sunderland, E.	ENVR	49	Svoronos, P.D.	PROF	35
Sun, H.	PMSE	470	Sunderland, E.	ENVR	82	Svozil, D.	AGRO	86
Sun, J.	ANYL	550	Sunderland, E.	ENVR	83	Swager, T.M.	ANYL	80
Sun, J.	AGFD	146	Sunderland, E.	ENVR	729	Swager, T.M.	ANYL	366
Sun, J.	AGFD	232	Sunderland, E.	ENVR	732	Swager, T.M.	COLL	64
Sun, J.	AGFD	314	Sundstrom, V.	PHYS	111	Swager, T.M.	COLL	65
Sun, J.	PMSE	600	Sung, D.	ORGN	642	Swager, T.M.	COLL	210
Sun, J.	COMP	91	Sung, J.	MPPG	115	Swager, T.M.	ENFL	246
Sun, J.	CARB	18	Sung, J.	CATL	329	Swager, T.M.	ENVR	56
Sun, J.	CATL	362	Sung, L.	ENVR	14	Swager, T.M.	ENVR	198
Sun, K.	AGFD	183	Sung, M.	COLL	200	Swager, T.M.	ENVR	528
Sun, L.	MEDI	237	Sung, M.	MEDI	262	Swager, T.M.	ENVR	549
Sun, L.	MEDI	443	Sung, S.	INOR	239	Swager, T.M.	ENVR	793
Sun, L.	ENVR	631	Sung, Y.	ENFL	266	Swager, T.M.	ORGN	19
Sun, L.	PMSE	431	Sung, Y.	ENFL	286	Swager, T.M.	ORGN	407
Sun, L.	ENVR	530	Sung, Y.	ENFL	510	Swager, T.M.	ORGN	413
Sun, L.	PMSE	292	Sung, Y.	ENFL	511	Swager, T.M.	ORGN	414
Sun, L.	PMSE	438	Sungjin, K.	ANYL	99	Swager, T.M.	ORGN	421
Sun, L.	PMSE	616	Sungsuwan, S.	PMSE	789	Swager, T.M.	ORGN	428
Sun, L.	PMSE	654	Sunley, G.	CATL	374	Swager, T.M.	ORGN	529
Sun, L.	PMSE	799	Suntivich, J.	CATL	4	Swager, T.M.	ORGN	597
Sun, M.	ENVR	42	Suntivich, J.	ENFL	436	Swager, T.M.	PMSE	8
Sun, M.	ENVR	43	Suo, Z.	ANYL	323	Swager, T.M.	PMSE	35
Sun, M.	ENVR	189	Suo, Z.	ENVR	55	Swager, T.M.	PMSE	164
Sun, M.	ENVR	461	Suo, Z.	TOXI	4	Swager, T.M.	PMSE	302

Swager, T.M.	PMSE	467	Szczuka, A.	ENVR	348	Takai, K.	ENFL	290
Swager, T.M.	PMSE	733	Szekely, E.	COMP	180	Takakuwa, T.	ENVR	317
Swager, T.M.	POLY	254	Szeto, D.	MEDI	311	Takami, K.	MEDI	73
Swain, G.	ANYL	87	Szeto, J.	COMSCI	3	Takamoto, T.	PMSE	153
Swain, G.	ANYL	481	Szewczyk, M.	MEDI	84	Takano, Y.	ORGN	535
Swale, D.	AGRO	3	Szlachetko, J.	PHYS	217	Takaoka, L.R.	CHAL	28
Swale, D.	AGRO	148	Szleifer, I.	POLY	477	Takasu, A.	POLY	228
Swale, D.	AGRO	275	Szmytka, F.	POLY	203	Takasu, A.	POLY	308
Swale, D.	AGRO	355	Szolnoki, G.	POLY	376	Takatama, K.	ENVR	247
Swale, D.	AGRO	356	Szostak, M.	ORGN	324	Takayama, K.	MEDI	337
Swale, D.	AGRO	357	Szwast, L.	COLL	246	Takeda, K.	ENVR	638
Swale, D.	AGRO	359	Szwast, L.	COLL	247	Takeda, K.	MEDI	72
Swamidass, S.	COMP	303	Szwast, L.	COLL	248	Takeda, R.	AGFD	74
Swamidass, S.	COMP	459	Szymanowski, J.E.	NUCL	75	Takeda, R.	AGFD	98
Swaminath, G.	MEDI	108	Szymczak, N.K.	INOR	222	Takeda, S.	CATL	23
Swaminath, G.	MEDI	322	Szymczak, N.K.	INOR	521	Takehara, H.	NUCL	41
Swaminathan, G.	COLL	169	Szymkuc, S.	CINF	145	Takemoto, M.	COLL	533
Swan, J.	COLL	119	T. K., S.	INOR	748	Takemoto, H.	PMSE	790
Swan, J.	COLL	170	Ta, A.T.	COMP	416	Takemura, A.	CELL	36
Swan, R.	CHED	98	Ta, A.T.	NUCL	55	Takemura, T.	ENVR	733
Swana, K.	COLL	279	Ta, A.T.	NUCL	56	Takeoka, Y.	ENFL	236
Swanson, J.	GEOC	57	Ta, A.T.	NUCL	86	Takeoka, Y.	PMSE	513
Swanson, J.	NUCL	44	Tabanca, N.	AGRO	125	Takeoka, Y.	PMSE	514
Swanson, J.	NUCL	46	Tabanca, N.	AGRO	175	Takeoka, Y.	PMSE	519
Swanson, J.	NUCL	70	Tabba, H.D.	ENVR	599	Takeoka, Y.	PMSE	547
Swanson, M.	MEDI	320	Tabba, H.D.	ENVR	651	Takeoka, Y.	PMSE	573
Swanstrom, R.	MEDI	123	Tabba, H.D.	ENVR	657	Takeoka, Y.	POLY	361
Swart, M.	CATL	381	Tabba, H.D.	MEDI	127	Takeoka, Y.	POLY	362
Swartz, N.A.	CHED	158	Tabba, H.D.	MEDI	235	Takeoka, Y.	POLY	363
Swarup, S.	PMSE	800	Tabba, H.D.	MEDI	397	Taketsugu, T.	CATL	264
Sweeder, R.D.	CHED	207	Tabba, H.D.	MEDI	450	Takeuchi, E.S.	ENFL	347
Sweedler, J.V.	MPPG	89	Tabbar, D.P.	ENFL	560	Takeuchi, E.S.	ENFL	466
Sweelssen, J.	CATL	31	Tachapermpon, Y.	INOR	361	Takeuchi, E.S.	INOR	486
Sweeney, C.	COLL	114	Tachibana, K.	MEDI	59	Takeuchi, E.S.	MPPG	9
Sweeney, D.	ENVR	744	Tadjine, A.	COLL	679	Takeuchi, E.S.	PRES	10
Sweeny-Jones, A.	MEDI	204	Taekyun, K.	MEDI	154	Takeuchi, K.J.	ENFL	347
Sweeny-Jones, A.	MEDI	437	Taeuber, K.	POLY	248	Takeuchi, K.J.	ENFL	466
Sweet, K.R.	AGFD	324	Tafazolian, H.	INOR	678	Takeuchi, K.J.	INOR	486
Swenson, D.C.	CHED	250	Taft, E.	COMP	381	Takeuchi, K.J.	MPPG	9
Swenson, D.C.	COLL	326	Tagashira, S.	AGFD	98	Takeuchi, K.J.	PRES	10
Swett, J.	COLL	577	Taggart, G.A.	INOR	515	Takeuchi, L.	POLY	139
Swieszkowski, W.	PMSE	673	Taggart, R.	ENVR	104	Takeya, M.	ORGN	650
Swillam, M.	PHYS	298	Taggi, A.	AGRO	171	Takiff, L.	BIOL	110
Swinton, D.J.	MEDI	178	Taggi, A.	AGRO	344	Takita, R.	ORGN	135
Swisher, N.	ENVR	670	Taghvae, T.	INOR	748	Talamás-Rohana, P.	MEDI	169
Swope, W.C.	CHED	380	Taghvae, T.	PMSE	679	Talapaneni, S.	PMSE	145
Swope, W.C.	COMP	43	Taguchi, A.	MEDI	337	Talpin, D.	COLL	374
Swope, W.C.	COMP	46	Taguchi, A.	BIOL	142	Talay, O.	MEDI	26
Swope, W.C.	COMP	461	Taguchi, A.	BIOL	285	Talbert, J.	AGFD	170
Swope, W.C.	PMSE	11	Taguchi, J.	ORGN	6	Talbert, J.	AGFD	292
Swyter, S.	CINF	27	Taguchi, J.	ORGN	607	Talbert, J.	ENVR	116
Sydlik, S.A.	PMSE	77	Tague, E.D.	ANYL	113	Taleb, R.	CHED	51
Syed, A.M.	COLL	454	Taha, A.	ENVR	602	Taleb, R.	COMP	313
Syed, A.	ORGN	257	Tahirovic, Y.	AGRO	87	Taleblood, N.	PHYS	512
Syguła, A.	POLY	213	Tahmouresilerd, B.	CATL	204	Tal-Gan, Y.	CHED	202
Sykes, E.H.	CATL	296	Tahsini, L.	INOR	351	Tal-Gan, Y.	ORGN	298
Sykes, E.H.	CATL	301	Tai, Y.	PMSE	664	Talin, A.A.	ENFL	467
Sykes, E.H.	CATL	395	Taifan, W.	CATL	171	Talley, S.	PMSE	678
Sykes, E.H.	CATL	399	Taifan, W.	ENVR	96	Talley, S.	POLY	535
Sykes, E.H.	CATL	407	Tailor, D.	MEDI	94	Tallon, C.	PMSE	686
Sykes, E.H.	COLL	74	Taing, A.	COLL	571	Talmon, Y.	POLY	315
Sykes, E.H.	COLL	147	Taira, S.	AGFD	10	Tam, S.	BMGT	2
Sykes, E.H.	COLL	614	Tait, S.L.	COLL	77	Tam, T.	ANYL	105
Sykes, E.H.	COLL	688	Tait, S.L.	COLL	333	Tam, T.	ANYL	179
Sykes, R.A.	COMP	227	Tajima, K.	ENFL	4	Tama, F.	COMP	18
Sykora, M.	INOR	529	Tajima, K.	ENFL	249	Tamain, C.	NUCL	54
Sylvester, P.	ANYL	463	Tajima, K.	ENFL	290	Tamaki, Y.	CATL	189
Symington, S.B.	AGRO	306	Tajkhorshid, E.	COMP	222	Tamamis, P.	COMP	191
Symington, S.B.	CARB	35	Tajkhorshid, E.	COMP	256	Tamamura, R.	PMSE	693
Symister, C.T.	MEDI	48	Tajkhorshid, E.	COMP	273	Tamang, S.R.	INOR	171
Symmons, O.	BIOL	164	Tajkhorshid, E.	MEDI	40	Tamang, S.R.	INOR	680
Synnott, S.	CHED	415	Takacs, J.M.	ORGN	305	Tamaoka, T.	CATL	23
Sytwu, K.	COLL	659	Takacs, M.P.	BIOL	70	Tamasauskaite-Tamasiunaite, L.	ENFL	219
Sytwu, K.	COLL	741	Takacs, M.P.	NUCL	15	Tamasauskaite-Tamasiunaite, L.	ENFL	528
Sytwu, K.	PHYS	239	Takahara, A.	PMSE	157	Tamayo-Mendoza, T.	COMP	302
Syverud, K.	PMSE	546	Takahara, A.	PMSE	287	Tamerler, C.	COLL	410
Szablowski, J.O.	COLL	697	Takahara, M.	COLL	543	Tamgadge, R.	ENFL	470
Szabo, K.	ORGN	8	Takahashi, A.	INOR	366	Tammeveski, K.	CATL	202
Szabo, K.	ORGN	635	Takahashi, D.	POLY	288	Tamura, A.	AGFD	10
Szabó, L.	ORGN	471	Takahashi, N.	AGFD	5	Tamura, K.	COMP	329
Szabolcs, Á.	MEDI	75	Takahashi, R.	ORGN	6	Tan, B.	ORGN	350
Szakács, P.	CHED	435	Takahashi, R.	ORGN	607	Tan, B.	ENVR	122
Szálás, G.	ORGN	655	Takahashi, R.	COLL	586	Tan, B.	ENVR	193
Szanyi, J.	CATL	396	Takahashi, R.	COLL	591	Tan, C.	AGRO	31
Szanyi, J.	CATL	469	Takahashi, R.	COLL	595	Tan, C.	AGFD	45
Szappanos, A.	ORGN	576	Takahashi, R.	COLL	596	Tan, E.	CATL	361
Szarka, A.Z.	AGRO	92	Takahashi, T.	MEDI	59	Tan, F.	ORGN	97
Szarka, A.Z.	AGRO	93	Takahashi, T.	MEDI	410	Tan, J.	MEDI	394
Szarka, G.	POLY	376	Takahashi, T.T.	BIOL	45	Tan, K.	CATL	32
Szaro, D.	ENVR	161	Takahashi, Y.	COLL	67	Tan, L.	ENVR	829
Szczepanski, C.	PMSE	189	Takahashi, Y.	COLL	273	Tan, M.	ENFL	456
Szczepanski, C.	PMSE	224	Takahashi, Y.	COLL	276	Tan, S.	ANYL	202
Szczepanski, C.	PMSE	395	Takai, K.	ENFL	4	Tan, S.	ANYL	556
Szczerba, T.	ANYL	157	Takai, K.	ENFL	249	Tan, S.	COLL	321

Tan, S.	COLL	431	Tao, F.	CATL	246	Tcyrulnikov, S.	ORGN	453
Tan, S.	COLL	601	Tao, J.	AGRO	233	Teague, C.M.	CHED	62
Tan, S.	INOR	418	Tao, L.	ENFL	534	Teal, P.E.	AGRO	213
Tan, W.	ANYL	337	Tao, N.	AGFD	228	Tear, W.	MEDI	36
Tan, W.	ANYL	351	Tao, N.	ANYL	383	Teator, A.J.	PMSE	54
Tan, W.	POLY	90	Tao, P.	COMP	232	Tebben, A.	MEDI	307
Tan, X.	ANYL	494	Tao, Y.	POLY	33	Tebikachew, B.E.	ORGN	680
Tan, X.	ANYL	322	Tapanes-Castillo, A.	COLL	111	Tedesco, G.	COMP	226
Tan, Y.	PHYS	309	Tapia Hernandez, R.	ANYL	398	Tedesco, G.	COMP	363
Tan, Y.	TOXI	18	Taplan, C.	POLY	114	Tedesco, G.	MEDI	159
Tan, Z.	POLY	485	Tapping, P.	PHYS	518	Tee, J.	BIOL	78
Tan, Z.	ANYL	376	Tarantino, M.E.	TOXI	53	Teed, S.	AGRO	20
Tanaka, M.	CARB	21	Tararina, M.A.	ANYL	122	Teed, S.	AGRO	363
Tanaka, M.	ORGN	151	Tarasov, S.	MEDI	210	Teh, G.B.	COLL	732
Tanaka, M.	INOR	576	Tarasov, S.G.	MEDI	380	Teh, H.	AGFD	45
Tanaka, M.	MEDI	78	Tarasova, N.	MEDI	210	Tehan, B.G.	MEDI	306
Tanaka, S.	ORGN	154	Tarasova, N.	MEDI	380	Teichen, P.	POLY	34
Tanaka, S.	MEDI	59	Tarasova, O.	CINF	59	Teijeiro Gonzalez, Y.	POLY	486
Tanaka, T.	ORGN	404	Tarasova, O.	CINF	139	Teitell, M.A.	COLL	698
Tanaka, T.	CARB	122	Tarcsay, A.	CINF	152	Teixeira, A.S.	ENVR	566
Tanasarnsopaporn, P.	PMSE	288	Tardy, B.	CELL	26	Teixeira, S.	PMSE	464
Tanasova, M.	ORGN	395	Targos, K.	CHED	90	Tejada, A.	CHED	307
Tanasova, M.	TOXI	37	Targos, K.	CHED	342	Tejada, R.	CATL	495
Tandon, R.	INOR	143	Tari, P.	MEDI	333	Tejada, C.	BIOL	161
Tandon, R.	INOR	760	Tari, P.	MEDI	359	Tek, A.	MPPG	112
Tanes, C.	AGFD	317	Tarifa, P.	CATL	481	Tek, A.	POLY	405
Tang, B.	ENVR	77	Tariq, I.	INOR	494	Tekle-Smith, M.	WCC	2
Tang, C.	ENFL	169	Tariq, M.	INOR	256	Telehany, S.	COMP	370
Tang, C.	COLL	279	Taron, M.	MEDI	333	Teli, M.	ANYL	558
Tang, C.	POLY	75	Taron, M.	MEDI	359	Tello-Casillas, J.K.	ENVR	506
Tang, C.	POLY	459	Tarpeh, W.	ENVR	37	Telpoukhovskaia, M.	MEDI	372
Tang, F.	POLY	408	Tarpeh, W.	ENVR	177	Telscher, M.J.	AGRO	165
Tang, H.	BIOL	88	Tarpeh, W.	ENVR	230	Temme, J.	CARB	57
Tang, J.	AGRO	364	Tarr, J.C.	MEDI	301	Temme, J.	CARB	65
Tang, J.	PMSE	798	Tarselli, M.	COMP	141	Tempelaar, R.	PHYS	330
Tang, J.	POLY	491	Tartakoff, S.S.	ORGN	234	Temps, F.	PHYS	327
Tang, J.	ENVR	85	Tarun, O.	ANYL	5	Temps, F.	PHYS	391
Tang, J.	ENVR	86	Tarun, O.	ANYL	397	Teng, F.	ANYL	431
Tang, J.	CARB	79	Tasdemir, A.	ENFL	409	Teng, H.	GEOC	39
Tang, J.	INOR	402	Tashiro, Y.	ORGN	154	Teng, J.	AGFD	228
Tang, K.	PMSE	763	Tashita, R.	ORGN	535	Teng, J.	ENVR	628
Tang, M.	POLY	341	Tasi, A.	NUCL	30	Teng, S.	COMP	30
Tang, M.	ENFL	297	Tatara, R.	ENFL	198	Teng, X.	COMP	39
Tang, P.	ENVR	192	Tatara, R.	PMSE	40	Teng, X.	CATL	84
Tang, Q.	TOXI	45	Tatarkiewicz, J.K.	COLL	26	Tengco, J.	CATL	501
Tang, S.	COLL	392	Tatchen, J.	ORGN	187	Tenney, S.	INOR	657
Tang, S.	ENVR	611	Tateishi, I.	CATL	287	Tennyson, A.G.	AGFD	286
Tang, S.	PMSE	452	Tateishi, I.	ENVR	623	Tennyson, A.G.	CELL	5
Tang, S.	POLY	157	Tatematsu, B.	PHYS	429	Tennyson, A.G.	ENVR	717
Tang, T.	ENVR	665	Tatham, L.	POLY	280	Tennyson, A.G.	POLY	135
Tang, T.P.	MEDI	144	Tatibouët, A.	CARB	69	Tennyson, J.	PHYS	310
Tang, W.	COMP	382	Tatlock, J.	MEDI	282	Tennyson, J.	PHYS	481
Tang, Y.	CARB	14	Tatosian, D.	MEDI	311	Tennyson, J.	PHYS	537
Tang, Y.	AGFD	54	Tatosian, I.	NUCL	53	Tenorio, M.	COLL	720
Tang, Y.	CATL	256	Tatsumi, A.	ANYL	204	Tentarelli, S.	ANYL	34
Tang, Y.	ENVR	814	Tatsumi, S.	BIOL	103	Tentarelli, S.	ANYL	190
Tang, Y.	CATL	78	Tauber, M.J.	PHYS	7	Tentori, A.	ANYL	203
Tang, Y.	CATL	116	Tautermann, C.	MEDI	305	Tentori, A.M.	ANYL	205
Tang, Y.	CATL	123	Tavakoli, M.	COLL	325	Teo, N.	PMSE	675
Tang, Y.	ENVR	366	Tavakoli, K.	MEDI	249	Tepavcevic, S.	ENFL	9
Tang, Y.	ENVR	367	Tavares De Almeida, R.	BIOL	220	Tepe, J.P.	BIOL	217
Tang, Y.	GEOC	43	Taveira, S.	CINF	143	Teplukhin, A.	PHYS	174
Tang, Y.	ENVR	590	Tavernelli, I.	COMP	119	Teplakov, A.V.	COLL	190
Tang, Y.	ENVR	310	Tawa, G.J.	MEDI	83	Terada, K.	PMSE	499
Tang, Z.	AGRO	88	Taylor, A.P.	ORGN	18	Terao, K.	PMSE	497
Tang, Z.	CATL	44	Taylor, A.	CHED	125	Terashima, T.	POLY	618
Tang, Z.	COLL	502	Taylor, B.L.	INOR	511	Terouchi, T.	MEDI	72
Tangirala, R.S.	MEDI	65	Taylor, B.L.	INOR	595	Terayama, K.	COMP	305
Tanguay, R.L.	ENVR	214	Taylor, B.L.	CHED	301	Ternei, M.	BIOL	133
Tani, T.	I&E	2	Taylor, D.	COMP	62	Terrell, J.	COLL	412
Tanida, S.	MEDI	73	Taylor, D.	PHYS	502	Terry, I.	ENVR	194
Taniguchi, A.	MEDI	337	Taylor, D.	PHYS	554	Terzaghi, W.	CHED	145
Taniguchi, C.	MEDI	78	Taylor, E.	CHED	16	Tessier, C.	INOR	151
Taniguchi, T.	INOR	79	Taylor, G.	ENFL	238	Tessier, C.	INOR	153
Tanioka, S.	AGFD	7	Taylor, H.F.	ORGN	424	Testa, B.	AGRO	86
Tanis, P.S.	WCC	2	Taylor, I.A.	ANYL	62	Testa, C.A.	ORGN	258
Tanrikulu, I.C.	PMSE	820	Taylor, J.N.	PHYS	180	Testoff, T.	PHYS	6
Tanski, J.	INOR	449	Taylor, J.A.	AGRO	109	Tetard-Jones, C.	AGRO	71
Tantai, X.	COLL	353	Taylor, K.H.	INOR	689	Tetraut, E.	COLL	208
Tantai, X.	POLY	545	Taylor, L.	CHED	290	Tetraut, T.	MEDI	418
Tantan, H.	ANYL	48	Taylor, M.K.	PMSE	208	Tetteh, J.T.	ENFL	49
Tantan, H.	ANYL	191	Taylor, M.	ORGN	333	Tetu, H.L.	ENVR	642
Tantawi, O.N.	ANYL	182	Taylor, M.G.	COLL	43	Teubner, M.	INOR	234
Tantillo, D.	COMP	425	Taylor, M.G.	COLL	494	Teuler, J.	COMP	219
Tantillo, D.	COMP	476	Taylor, S.	GEOC	42	Tevis, I.D.	COLL	684
Tantillo, D.J.	COMP	318	Taylor, S.D.	INOR	312	Tevis, K.M.	BIOL	46
Tantipalakul, S.	ENFL	271	Taylor, S.	ENVR	469	Tew, G.N.	PMSE	233
Tanvir, R.	ENVR	22	Taylor-Pashow, K.M.	PMSE	70	Tew, G.N.	POLY	134
Tanyeri, Z.	COMP	331	Taynton, P.J.	POLY	200	Tew, G.N.	POLY	178
Tao, F.	CATL	16	Tayyab, M.	INOR	409	Tew, G.N.	POLY	487
Tao, F.	CATL	78	Tazhigulov, R.	COMP	344	Texter, J.	POLY	243
Tao, F.	CATL	116	Tazhigulov, R.	COMP	371	Tezcan, F.A.	PMSE	347
Tao, F.	CATL	123	Tazhigulov, R.	PHYS	457	Thackray, C.	ENVR	82
Tao, F.	CATL	175	Tcyrulnikov, N.	ORGN	578	Thagard, S.M.	ENVR	524

Thaiboonrod, S.	POLY	522	Thomas, S.W.	PMSE	28	Tian, Z.R.	PMSE	637
Thaker, K.P.	COMP	378	Thomas, S.W.	POLY	386	Tian, Z.	MEDI	200
Thaker, P.	PMSE	446	Thomas, S.	ENVR	183	Tian, Z.	PMSE	522
Thakkar, H.	ENFL	410	Thomas, S.	PMSE	144	Tiano, A.L.	MPPG	25
Thakker, K.	COLL	571	Thomas, S.	CHED	136	Tibbits, A.	POLY	401
Thakur, A.	MEDI	83	Thomas, Y.	PHYS	498	Tichauer, K.	MEDI	440
Thakurathi, M.	ANYL	151	Thomas-Alyea, K.	PHYS	223	Tidemann, N.	CATL	251
Thakuri, P.C.	CATL	500	Thomas-Fowlkes, B.	MEDI	311	Tiebes, J.	AGRO	208
Thal, L.B.	MPPG	68	Thomopoulos, S.	GEOC	2	Tiedje, J.	ENVR	156
Thalangamaarachchige, V.	ANYL	151	Thompson, B.	INOR	322	Tielemans, D.	COMP	103
Thalangamaarachchige, V.	ANYL	528	Thompson, B.	INOR	342	Tielems, F.	CATL	59
Thalaspitiya, W.	CATL	350	Thompson, C.V.	INOR	352	Tierce, N.	PHYS	53
Thalaspitiya, W.	CATL	441	Thompson, C.	INOR	439	Tigaa, R.A.	INOR	741
Thalaspitiya, W.	CATL	448	Thompson, D.	COMSCI	9	Tigaa, R.A.	INOR	756
Thallappally, P.K.	ENFL	494	Thompson, D.E.	TOXI	54	Tignor, S.E.	ENFL	13
Thambi, J.L.	PMSE	19	Thompson, D.L.	PHYS	171	Tikhomirova, A.	ORGN	441
Thanavaro, A.	ANYL	531	Thompson, D.L.	PHYS	181	Tilahun, A.	ENVR	711
Thang, S.H.	POLY	301	Thompson, H.J.	AGFD	256	Tillement, O.	COLL	614
Thangavel, N.	ENVR	334	Thompson, J.	CINF	129	Tilley, D.	COLL	447
Thanneeru, S.	COLL	676	Thompson, L.M.	COMP	562	Tilley, R.D.	COLL	732
Thanneeru, S.	ENFL	458	Thompson, L.T.	CATL	419	Tilley, T.	INOR	28
Thanneeru, S.	POLY	309	Thompson, L.T.	ENFL	91	Tilley, T.	INOR	622
Thanneeru, S.	POLY	388	Thompson, L.	MEDI	51	Tilley, T.	INOR	624
Thany, S.	AGRO	128	Thompson, L.A.	MEDI	50	Tillman, K.	POLY	4
Thany, S.	AGRO	308	Thompson, M.E.	ORGN	683	Tillman, K.	POLY	55
Thapa, B.	COMP	492	Thompson, M.E.	PHYS	329	Tillman, K.	POLY	521
Thapa, B.	PHYS	480	Thompson, M.	CHED	55	Tilluck, R.W.	PHYS	404
Thatcher, G.R.	MEDI	294	Thompson, M.	INOR	643	Timko, M.T.	ENVR	25
Thayumanavan, S.	COLL	437	Thompson, M.	POLY	328	Timko, M.T.	ENVR	179
Thayumanavan, S.	PHYS	155	Thompson, M.N.	AGRO	324	Timko, M.T.	ENVR	302
Thayumanavan, S.	PMSE	92	Thompson, N.B.	INOR	67	Timko, M.T.	ENVR	303
Thayumanavan, S.	PMSE	815	Thompson, S.	INOR	166	Timko, M.T.	ENVR	304
Theberge, S.M.	CHED	358	Thomsen, A.M.	INOR	54	Timm, A.	PMSE	641
Theil Kuhn, L.	COLL	503	Thomsen, L.	PMSE	661	Timm, B.	CARB	17
Thelen, J.L.	PMSE	657	Thomsen, P.	COLL	772	Timm, D.E.	MEDI	330
Thenuwara, A.	COLL	499	Thongsornkleeb, C.	ORGN	12	Timmel, C.R.	INOR	127
Thenuwara, A.	COLL	685	Thongsoornkleeb, C.	ORGN	584	Timmer, B.	CATL	212
Thenuwara, A.	ENFL	499	Thonhouser, T.	COMP	274	Timmerman, J.	PMSE	634
Theravalappil, R.	INOR	25	Thonhouser, T.	COMP	519	Timmermans, S.	PMSE	358
Therien, M.J.	INOR	313	Thornburg, T.E.	ENVR	153	Timmers, H.	PHYS	13
Therrien, A.	CATL	296	Thornock, K.	NUCL	25	Timmes, T.C.	ENVR	796
Thevissen, K.	PMSE	792	Thornton, A.	CINF	90	Timmins, R.L.	POLY	343
Thibeault, J.	CHED	194	Thornton, S.	ENVR	292	Timperley, C.	ANYL	240
Thibodeaux, A.	INOR	504	Thorpe, C.	BIOL	109	Timpo, E.	BIOL	38
Thibodeaux, A.	INOR	768	Thorson, J.S.	BIOL	36	Tindal, J.	PMSE	629
Thieghi, L.T.	PHYS	431	Thorson, J.S.	BIOL	89	Ting, J.	CHED	35
Thiele, C.	MEDI	345	Thorsteinson, N.	COMP	379	Ting, J.	PMSE	303
Thiele, G.M.	COLL	616	Thorsteinson, N.	MEDI	197	Ting, J.	POLY	289
Thiele, N.A.	NUCL	12	Thota, S.	COLL	582	Ting, J.	POLY	367
Thielemans, W.	CELL	22	Thrasher, C.	PMSE	32	Ting, Y.S.	ANYL	198
Thielemans, W.	CELL	54	Thrift, W.	COMP	139	Ting, Y.	AGFD	209
Thieme, J.	ENFL	522	Throckmorton, J.	PMSE	203	Ting, Y.	AGFD	91
Thiessen, P.	CHAS	37	Thuening, T.	CATL	407	Ting, Y.	AGFD	107
Thiessen, P.	CINF	38	Thuening, T.	COLL	147	Ting, Y.	AGFD	108
Thiessen, P.	CINF	79	Thuo, M.M.	ANYL	61	Ting, Y.	AGFD	110
Thiessen, P.	CINF	134	Thuo, M.M.	COLL	684	Ting, Y.	AGFD	112
Thiounn, T.	AGFD	286	Thuo, M.M.	POLY	219	Ting, Y.	AGFD	113
Thiounn, T.	CELL	5	Thurman, C.	ENVR	671	Ting, Y.	AGFD	114
Thiounn, T.	ENVR	717	Thurston, G.	BIOL	29	Ting, Y.	AGFD	119
Thiounn, T.	POLY	135	Tian, C.	POLY	608	Tingting, P.	ENVR	495
Thirman, J.	COMP	464	Tian, B.	MEDI	264	Tinney, D.	PHYS	453
Thirumurthy, M.A.	BIOL	315	Tian, B.	INOR	71	Tinoco, A.D.	INOR	183
Thirunavukkuarasu, K.	INOR	360	Tian, C.	ENVR	210	Tinsley, J.M.	MEDI	289
Thistle, H.	AGRO	234	Tian, C.	PHYS	115	Tiong, S.	AGFD	45
Thi Thuy, B.	ENVR	173	Tian, C.	POLY	275	Tirado-Rives, J.	CHED	379
Thi Thuy, B.	ENVR	233	Tian, C.	COMP	413	Tirrell, D.A.	POLY	567
Thi Thuy, B.	ENVR	771	Tian, G.	BIOL	35	Tirrell, M.V.	PMSE	414
Thom, R.M.	ENVR	671	Tian, H.	CATL	319	Tirrell, M.V.	POLY	289
Thoma, J.L.	POLY	144	Tian, H.	CATL	327	Tirrell, M.V.	POLY	367
Thomann, R.	POLY	398	Tian, H.	I&E	22	Tisdale, W.A.	ANYL	511
Thomann, Y.	POLY	398	Tian, J.	COLL	322	Tisdale, W.A.	COLL	119
Thomas, A.	PMSE	686	Tian, J.	COLL	593	Tisdale, W.A.	ENVR	835
Thomas, A.	ORGN	445	Tian, J.	ENVR	606	Tisdale, W.A.	INOR	530
Thomas, A.	MEDI	311	Tian, J.	INOR	723	Tisdale, W.A.	PHYS	104
Thomas, C.	ENVR	476	Tian, J.	MEDI	162	Tisdale, W.A.	PHYS	414
Thomas, C.	ENVR	598	Tian, J.	AGFD	75	Titi, H.M.	INOR	243
Thomas, C.	CHED	177	Tian, J.	AGFD	118	Titi, H.M.	INOR	656
Thomas, C.M.	PMSE	128	Tian, L.	POLY	476	Titi, H.M.	ORGN	430
Thomas, C.J.	MEDI	301	Tian, L.	POLY	281	Titi, H.M.	ORGN	436
Thomas, C.J.	ORGN	204	Tian, L.	COMP	361	Titirici, M.	ENVR	228
Thomas, D.A.	COMSCI	2	Tian, M.	PMSE	134	Titirici, M.	PMSE	602
Thomas, D.	CARB	82	Tian, Q.	ORGN	489	Titov, E.	PHYS	521
Thomas, D.	MEDI	224	Tian, Q.	POLY	318	Tiu, C.	AGRO	43
Thomas, E.L.	POLY	215	Tian, S.	ENFL	157	Tiu, C.	AGRO	66
Thomas, G.	PROF	5	Tian, T.	COLL	521	Tivanski, A.V.	COLL	326
Thomas, G.	CHED	182	Tian, T.	COLL	578	Tivanski, A.V.	COLL	557
Thomas, J.	BIOL	308	Tian, W.	MEDI	341	Tivanski, A.V.	COLL	648
Thomas, M.A.	AGRO	300	Tian, X.	ANYL	559	Tivanski, A.V.	COLL	727
Thomas, M.	ANYL	234	Tian, Y.	CATL	155	Tiwari, N.	MEDI	410
Thomas, M.	CELL	6	Tian, Y.	MPPG	33	Tiwari, P.	ENFL	366
Thomas, S.	MPPG	26	Tian, Z.R.	COLL	331	Tiwari, P.K.	ENFL	529
Thomas, S.W.	ORGN	677	Tian, Z.R.	COLL	703	Tiwari, R.	MEDI	203
Thomas, S.W.	ORGN	685	Tian, Z.R.	INOR	470	Tiwari, R.	MEDI	249
Thomas, S.W.	PMSE	21	Tian, Z.R.	PMSE	521	Tiwari, S.	CATL	249

Tiwari, S.	CATL	320	Tong, Y.	CHED	415	Trammell, R.	INOR	770
Tiwari, S.	CATL	343	Tong, H.	AGFD	89	Tran, D.	CATL	19
Tiwary, C.	INOR	304	Tonga, G.	INOR	764	Tran, D.T.	ENFL	351
Tiwold, E.K.	ORGN	298	Tonga, G.Y.	COLL	260	Tran, H.	PMSE	466
Tizzard, G.J.	MEDI	187	Tonga, G.Y.	COLL	689	Tran, H.	PMSE	263
Tjaden, E.	AGRO	249	Tonigold, M.	CATL	145	Tran, J.	ENVR	229
Tkachenko, V.	AGRO	19	Tonigold, M.	CATL	156	Tran, J.	CARB	5
Tkachenko, V.	CINF	69	Tonks, I.	INOR	404	Tran, K.	AGRO	255
Tkachenko, V.	MEDI	114	Tonks, I.	ORGN	322	Tran, K.	AGRO	347
Tkatchenko, A.	COMP	308	Tonneller, A.	POLY	206	Tran, K.	ANYL	310
Tlahuice-Flores, A.	INOR	75	Tonzetich, Z.J.	INOR	352	Tran, L.	INOR	504
Tobiason, J.E.	ENVR	777	Tooley, R.J.	AGRO	108	Tran, L.T.	ENVR	399
Tobisu, M.	ORGN	340	Toor, A.	PMSE	96	Tran, M.N.	ORGN	400
Tobisu, M.	ORGN	466	Toor, N.	COMP	21	Tran, N.	ENFL	89
Tobori, N.	INOR	716	Tooze, R.P.	CATL	117	Tran, Q.D.	ORGN	602
Tocher, J.	ORGN	568	Töpel, A.	POLY	397	Tran, Q.D.	ORGN	615
Todd, D.	COLL	778	Topic, F.	COMP	538	Tran, R.	ANYL	454
Tofan, D.	INOR	262	Topic, F.	ORGN	431	Tran, R.	COMP	538
Togasawa, R.	PMSE	461	Topolski, J.	PHYS	474	Tran, R.	ORGN	431
Togashi, T.	PHYS	217	Toppare, L.	PMSE	540	Tran, S.	INOR	79
Toher, C.	PHYS	305	Toribio, S.	CHED	409	Tran, T.	ENFL	451
Toher, C.	PHYS	307	Torkelson, J.M.	PMSE	224	Tran, T.	POLY	109
Tokarsky, J.	TOXI	4	Torkelson, J.M.	PMSE	393	Tran, V.	COLL	647
Tokarsky, J.	TOXI	14	Torkelson, J.M.	PMSE	395	Tran Ba, K.	PMSE	201
Tokatlian, T.	COLL	568	Torkelson, J.M.	PMSE	816	Tranca, D.	CATL	410
Tokita, M.	POLY	586	Torkelson, J.M.	POLY	154	Tranel, P.	AGRO	100
Tokmina-Lukaszewska, M.	BIOL	262	Torkelson, J.M.	POLY	205	Tranel, P.	AGRO	103
Tokranov, A.	ENVR	729	Torneiro, M.	POLY	380	Tranel, P.	AGRO	104
Tokranov, A.K.	ENVR	49	Torok, B.	ORGN	136	Tran Lu, L.	CHED	112
Tokranov, A.K.	ENVR	732	Torok, B.	ORGN	347	Transue, W.	INOR	648
Tokura, Y.	ANYL	163	Torok, B.	ORGN	594	Trapp, S.	AGRO	161
Tokura, Y.	ANYL	164	Torralba-Sanchez, T.	ENVR	376	Trappe, J.	MEDI	20
Tokuyama, C.	AGFD	90	Torrealba, A.	CHED	386	Trask, J.	AGRO	228
Tokuyama, H.	POLY	413	Torrents, A.	AGRO	117	Tratnyek, P.G.	ENVR	376
Tolbert, S.H.	PHYS	240	Torrents, A.	AGRO	232	Traub, M.	AGRO	305
Tolbert, T.J.	CARB	104	Torrents, A.	AGRO	297	Travas-Sejdic, J.	POLY	73
Toledo, E.V.	MEDI	444	Torrents, A.	ENVR	736	Travis, S.	ENVR	726
Tolia, N.	MEDI	48	Torres, S.M.	ORGN	272	Trawick, M.L.	MEDI	97
Tollerson, W.H.	AGFD	294	Torres, V.C.	CHED	167	Traynor, J.R.	MEDI	290
Tolmachev, A.	MEDI	413	Torres-Alacan, J.	PHYS	109	Treacher, K.	COLL	21
Tolman, W.B.	INOR	9	Torres-Giner, S.	AGFD	344	Treacy, C.	POLY	162
Toltin, A.C.	AGRO	306	Torres Jr, L.	COLL	413	Trefonas, P.	COLL	442
Toma, V.	COLL	40	Torstensen, J.Ø.	PMSE	546	Trefonas, P.	PMSE	332
Toma, V.	COLL	243	Torto, B.	AGRO	213	Treich, N.R.	INOR	342
Tomalía, D.A.	POLY	249	Tortorella, S.	MEDI	263	Treinen, K.	NUCL	48
Tomanek, D.	INOR	11	Tosado, G.	ENFL	508	Tremblay, T.	CARB	39
Tomanik, M.	ORGN	671	Toсте, D.	INOR	676	Tremelling, G.	PMSE	797
Tomas, M.	INOR	42	Toсте, D.	PMSE	379	Trementozzi, A.	COLL	645
Tomas, M.	INOR	540	Toсте, D.	PMSE	612	Tremouilhac, P.	CINF	29
Tomas-Barberan, F.	AGFD	53	Tata, R.	POLY	588	Trenshaw, K.	PROF	13
Tomas-Barberan, F.	AGFD	152	Toth, B.	AGRO	236	Trent, A.	ANYL	226
Tomas-Barberan, F.	AGFD	197	Tóth, I.	INOR	89	Trentle, M.C.	ENVR	121
Tomas-Barberan, F.	AGFD	280	Tóth, I.	ORGN	471	Tresco, B.	ORGN	258
Tomasik, J.H.	ENVR	624	Tóti, K.S.	MEDI	385	Tress, M.	PMSE	501
Tomasino, E.	AGFD	129	Totton, T.	COMP	332	Tretiak, S.	COLL	745
Tomasino, E.	AGFD	250	Totton, T.	PHYS	554	Tretiak, S.	COMP	177
Tomasula, P.	AGFD	140	Toubin, C.	PHYS	540	Tretiak, S.	COMP	179
Tomasula, P.	AGFD	161	Toubin, C.	PHYS	542	Tretiak, S.	COMP	198
Tomasula, P.	AGFD	245	Tour, J.M.	ANYL	219	Tretiak, S.	COMP	285
Tomasula, P.	AGFD	246	Tournilhac, F.	POLY	52	Tretiak, S.	PHYS	103
Tomasula, P.	AGFD	317	Tournilhac, F.	POLY	112	Tretyakova, N.Y.	TOXI	6
Tomat, E.	INOR	57	Tovar, J.D.	PMSE	24	Tretyakova, N.Y.	TOXI	47
Tominari, Y.	MEDI	63	Tovar, M.A.	ANYL	111	Tretyakova, N.Y.	TOXI	78
Tomlinson, A.L.	ORGN	417	Tovar, R.	INOR	115	Tretyakova, N.Y.	TOXI	79
Tomlinson, A.L.	ORGN	562	Tovar, T.	POLY	552	Tretyakova, N.Y.	TOXI	82
Tomlinson, I.D.	BIOL	187	Tovar, T.	POLY	556	Treven, M.	MEDI	95
Tomlinson, R.	MEDI	70	Tovee, C.	CINF	12	Trianni, A.	COLL	50
Tomlinson, R.	ORGN	549	Towle, E.	COLL	718	Tribe, L.	GEOC	21
Tommasi, R.A.	COMP	570	Town, G.	ENFL	304	Trieger, G.W.	CARB	80
Tommasi, R.A.	MEDI	323	Townes, J.	PROF	32	Trifkovic, M.	COLL	10
Tomoda, K.	COLL	533	Towns, M.H.	CHED	422	Trifkovic, M.	COLL	15
Tomoda, K.	PMSE	790	Townsend, J.P.	PHYS	551	Trifkovic, M.	COLL	418
Tomohisa, O.	PMSE	519	Townsend, S.	CINF	65	Trimmer, E.E.	CHED	18
Tompsett, G.	ENVR	179	Townsend, S.D.	ORGN	373	Trimpalis, A.	CATL	447
Tompsett, G.	ENVR	304	Townsend-Nicholson, A.	MEDI	309	Trimpin, S.	ANYL	475
Tomson, M.B.	I&E	46	Toy, P.H.	ORGN	456	Trinh, M.N.	CARB	41
Tonelli, A.	POLY	138	Toyofuku, M.	MEDI	63	Trinque, B.C.	CHAL	2
Tonelli, A.	POLY	145	Toyofuku, M.	MEDI	314	Trinque, B.C.	CHAL	5
Tonelli, A.	POLY	146	Tozzo, E.	MEDI	410	Tripathi, A.	BIOL	195
Tonetti, D.	MEDI	294	Traba, C.	CHED	251	Tripathi, P.	BIOL	166
Toney, M.	CATL	200	Trabbic, K.R.	CARB	8	Triplett, O.A.	AGFD	294
Tong, F.	ORGN	528	Trabbic, K.R.	CARB	53	Tripoli, A.	CATL	306
Tong, L.	PMSE	804	Trabbic, K.R.	CARB	64	Tripp, C.P.	ENVR	483
Tong, M.	AGRO	138	Trabesinger, S.	PHYS	288	Tripp, C.P.	ENVR	484
Tong, R.	POLY	126	Trabocchi, A.	ORGN	203	Trippner, P.	MEDI	4
Tong, R.	POLY	411	Trabold, T.	CELL	50	Trivedi, D.J.	MPPG	60
Tong, V.	MEDI	342	Trabold, T.	ENVR	363	Trivedi, P.	AGRO	318
Tong, W.G.	CHED	231	Trabolsi, A.	CHED	277	Trivedi, P.	ANYL	153
Tong, X.	ENFL	238	Trabolsi, A.	PMSE	344	Trnka, T.	PHYS	230
Tong, X.	INOR	50	Trad, T.M.	CHED	276	Troelsen, K.	MEDI	209
Tong, X.	ENVR	142	Trad, T.M.	INOR	528	Troger, F.	TOXI	105
Tong, Y.	ENFL	438	Trader, D.J.	BIOL	10	Troian-Gautier, L.	INOR	358
Tong, Y.	ANYL	513	Trader, D.J.	MEDI	341	Troian-Gautier, L.	INOR	555
Tong, Y.	CATL	259	Trakselis, M.A.	TOXI	1	Troian-Gautier, L.	INOR	634

Troian-Gautier, L.	INOR	666	Tsuchiya, K.	POLY	86	Turner, J.	MPPG	113
Troje, M.M.	ANYL	9	Tsuchiya, K.	POLY	181	Turner, J.A.	ENFL	211
Trojniak, A.E.	COLL	292	Tsuchiya, S.	MEDI	73	Turner, M.	CHED	330
Troll, C.	CATL	145	Tsuchiya, Y.	INOR	382	Turner, N.	CATL	163
Troll, J.	COLL	490	Tsuda, K.	COMP	305	Turner, R.	MEDI	151
Trongsiriwat, N.	INOR	685	Tsuda, T.	AGFD	4	Turner, S.R.	POLY	592
Tropp, J.	ENVR	197	Tsugawa, W.	ANYL	170	Turney, D.	ENFL	522
Tropsha, A.	CINF	143	Tsugawa, W.	ANYL	327	Turoski, C.	CHAL	31
Tropsha, A.	COMP	116	Tsugawa, W.	ANYL	412	Turpoff, A.	MEDI	286
Tropsha, A.	COMP	136	Tsuge, M.	PHYS	194	Turro, C.	INOR	315
Trosien, I.	ORGN	241	Tsui, F.	PMSE	659	Turton, D.	MEDI	361
Trost, E.	CHED	199	Tsujimoto, M.	INOR	716	Tusamda Wakhloo, N.	POLY	483
Trotta, J.T.	POLY	520	Tsukakoshi, K.	ANYL	425	Tuteja, A.	PMSE	645
Trotter, B.	MEDI	342	Tsukruk, V.V.	CELL	63	Tuttle, P.	CHED	280
Trought, M.	CATL	181	Tsukruk, V.V.	POLY	247	Tuval, E.	POLY	502
Trought, M.	COLL	237	Tsukruk, V.V.	POLY	294	Tuvi-Arad, I.	CINF	49
Trout, B.	COLL	81	Tsukruk, V.V.	POLY	469	Twardy, D.J.	ORGN	590
Trout, B.	COLL	508	Tsukruk, V.V.	POLY	537	Tweed, J.	ANYL	307
Trout, J.	AGFD	132	Tsung, C.	CATL	89	Tweedy, S.	BIOL	280
Trout, R.	AGFD	132	Tsung, C.	CATL	507	Twiss-Brooks, A.B.	CINF	111
Trout, R.E.	AGFD	122	Tsung, C.	CHED	27	Twohig, M.	AGRO	222
Troutman, J.	INOR	581	Tsung, C.	CHED	244	Tyagi, M.	PMSE	156
Trovatello, C.	PHYS	547	Tsung, C.	COLL	498	Tyagi, S.	AGRO	246
Trowbridge, A.D.	ORGN	70	Tsung, C.	INOR	17	Tye, C.	MEDI	265
Troya, D.	ENVR	469	Tsung, C.	INOR	118	Tylaska, L.	MEDI	151
Troya, D.	INOR	372	Tsung, C.	INOR	120	Tyler, A.	ORGN	521
Troya, D.	INOR	660	Tsung, C.	INOR	302	Tyler, K.	CHED	61
Truchan, N.	ORGN	118	Tsung, C.	INOR	652	Tyliszczak, T.	INOR	420
Trudell, M.	INOR	465	Tsunoda, K.	PMSE	85	Tyndall, D.	INOR	539
Trudell, M.	MEDI	141	Tsutsumi, A.	AGFD	82	Tyrchan, C.	COMP	99
Trueman, B.F.	ENVR	237	Tsuzuki, S.	AGFD	217	Tyrode, E.	COLL	154
Trueman, B.F.	ENVR	763	Tsyrenova, A.	PMSE	318	Tyrol, C.C.	ORGN	100
Truhlar, D.G.	COMP	87	Tu, B.	INOR	246	Tyrol, C.C.	INOR	294
Truhlar, D.G.	COMP	166	Tu, H.	ENFL	428	Tyrol, C.C.	ORGN	77
Truhlar, D.G.	COMP	518	Tu, K.	ENVR	614	Tyufekchiev, M.	ENVR	25
Truhlar, D.G.	ENFL	89	Tu, M.	AGFD	175	Tyufekchiev, M.	ENVR	303
Truhlar, D.G.	PHYS	66	Tu, S.	AGRO	133	Tzean, S.	ENVR	626
Truitt, K.	PHYS	134	Tu, Y.	PMSE	506	Tzeng, J.	ANYL	258
Trujillo, M.	MEDI	311	Tu, Y.	AGFD	327	Tzeng, J.	ANYL	411
Trujillo, M.J.	COLL	635	Tu, Y.	AGFD	201	Tzeng, J.	ENVR	614
Trujillo De Santiago, G.	CHED	205	Tuba, R.	INOR	89	Tzitzios, V.	CATL	509
Trullinger, T.K.	AGRO	82	Tuba, R.	ORGN	471	Tzitzios, V.	INOR	737
Trullinger, T.K.	AGRO	122	Tuba, R.	ORGN	655	Tzitzios, V.	PMSE	793
Trumbo Bell, T.A.	CHED	195	Tuba, R.	POLY	376	Tzounopoulos, T.	INOR	765
Trumbo Bell, T.A.	CHED	196	Tubbs, C.	ENVR	89	Uba, I.	ANYL	293
Trump, B.	ENVR	625	Tubert-Brohman, I.	CINF	41	Uccello, D.P.	I&E	6
Trump, B.A.	INOR	227	Tubman, N.M.	COMP	552	Uchida, M.	COLL	569
Trunschke, A.	CATL	292	Tuck, S.	MEDI	439	Uchida, S.	PMSE	757
Truong, D.	ENVR	30	Tucker, A.	ANYL	106	Uchida, Y.	ORGN	526
Truong, P.V.	PMSE	62	Tucker, A.L.	PMSE	429	Uchimiya, S.M.	ENFL	477
Truong, Q.	POLY	448	Tucker, B.S.	POLY	121	Uchiyama, M.	ORGN	135
Truppo, M.	CATL	107	Tucker, W.	INOR	605	Uchiyama, S.	POLY	413
Tsafack, T.	COMP	574	Tucker, W.	INOR	609	Uddin, I.	INOR	764
Tsafack, T.	POLY	612	Tufenkji, N.	ENVR	136	Ude, M.	PROF	28
Tsai, A.	CATL	76	Tuffy, M.	AGRO	322	Udenigwe, C.	AGFD	218
Tsai, C.	COMP	428	Tukpah, M.	COLL	72	Udit, A.K.	BIOL	182
Tsai, C.	AGFD	209	Tulaphol, S.	ENVR	405	Udit, A.K.	INOR	185
Tsai, C.	ENVR	782	Tulodziecki, M.	ENFL	198	Udumula, V.R.	AGRO	84
Tsai, M.	PMSE	620	Tumbaco, E.	CHED	253	Ueda, A.	CARB	21
Tsai, S.	AGFD	119	Tumbelty, L.	ORGN	626	Ueda, A.	ORGN	151
Tsai, W.	PHYS	531	Tumey, J.	BIOL	33	Ueda, K.	CARB	29
Tsai, Y.	ENVR	613	Tummatorn, J.	ORGN	12	Ueda, K.	PHYS	217
Tsang, D.	ENVR	499	Tummatorn, J.	ORGN	584	Ueda, S.	CATL	76
Tsang, J.	MEDI	212	Tuncel, D.	COLL	760	Uehara, M.	AGFD	5
Tsang, M.	INOR	730	Tung, H.	ENVR	379	Uemura, H.	ORGN	161
Tsao, C.	MEDI	282	Tung, H.	GEOC	65	Uemura, Y.	PHYS	219
Tsaoulidis, D.	ENFL	418	Tung, S.	PMSE	261	Uenishi, J.	CARB	21
Tsarevsky, N.V.	HIST	28	Tung, T.	ORGN	560	Ugur, E.	PMSE	594
Tsau, J.	ENFL	370	Tung, Y.	AGFD	205	Ugurlu, A.	CARB	110
Tsay, C.	INOR	176	Tunick, M.H.	AGFD	122	Ujj, V.	MEDI	75
Tsay, C.	INOR	686	Tunick, M.H.	AGFD	140	Ukpebor, E.E.	ENVR	633
Tsay, C.	INOR	704	Tunick, M.H.	AGFD	161	Ukpebor, J.U.	ENVR	633
Tschirret-Guth, R.	MEDI	311	Tunick, M.H.	AGFD	346	Ukwitegetse, N.	ORGN	682
Tschumper, G.S.	COMP	38	Turano, M.	COLL	150	Ulander, J.	MEDI	320
Tse, H.	COLL	481	Turczel, G.	INOR	89	Ulapane, S.B.	MPPG	106
Tsednee, T.	PHYS	494	Turczel, G.	ORGN	471	Ulbrich, J.	POLY	310
Tsekmes, I.	PMSE	704	Turczel, G.	ORGN	655	Ulbricht, M.	PMSE	599
Tsekmes, I.	POLY	77	Ture, T.M.	PHYS	424	Uljin, R.	CARB	112
Tseng, H.	COLL	434	Turecek, F.	ANYL	519	Uljin, R.	CARB	113
Tseng, Y.	AGFD	327	Turesky, R.	TOXI	11	Ullal, C.	PMSE	200
Tseng, Y.	ENVR	379	Turesky, R.	TOXI	32	Ullrich, J.	PHYS	207
Tsige, M.	PMSE	87	Turesky, R.	TOXI	39	Ullrich, S.	PHYS	382
Tsikolia, M.	AGRO	124	Turesky, R.	TOXI	91	Ullrich, S.	PHYS	384
Tsikolia, M.	AGRO	125	Turesky, R.J.	TOXI	20	Ullrich, D.	AGRO	110
Tsikolia, M.	AGRO	360	Turgeon, P.	PHYS	133	Ulrich, R.	CARB	34
Tsilomelekis, G.	CATL	420	Turgut, H.	PMSE	637	Ulrich, S.	POLY	124
Tsosie, R.L.	ENVR	144	Türkova, A.	CINF	51	Um, I.	PMSE	472
Tsotsos, E.M.	INOR	87	Turn, S.Q.	ENFL	445	Umasangtongkul, S.	AGFD	265
Tsou, F.	ENVR	401	Turn, S.Q.	ENFL	450	Umeda, M.	COLL	206
Tsuboi, Y.	MEDI	59	Turner, D.	PHYS	331	Umeh, A.	AGRO	166
Tsubouchi, N.	ENVR	630	Turner, H.	POLY	193	Umeofia, T.	ENVR	153
Tsuchiizu, M.	COMP	16	Turner, J.	AGFD	341	Umer, A.	CELL	12
Tsuchiya, K.	POLY	84	Turner, J.	CINF	131	Umile, T.P.	CHED	161
Tsuchiya, K.	POLY	85	Turner, J.	CINF	135	Umile, T.P.	ORGN	205

Umile, T.P.	ORGN	396	Vairakannu, P.	ENFL	549	Vangelder, L.E.	INOR	663
Umile, T.P.	ORGN	397	Vaishnav, C.	ENVR	52	Vangeli, E.	CHED	236
Umpfred-Wilson, K.	BIOL	29	Vaishnav, C.	ENVR	124	Van Haasterecht, T.	CATL	104
Umscheid, V.	CHED	132	Vaissier, V.	COMP	324	Van Haasterecht, T.	CATL	381
Ung, D.	MPPG	28	Vajda, A.M.	ENVR	732	Vanhaelen, Q.	COMP	96
Ung, G.	COLL	676	Vajda, S.	COMP	436	Van Handel, C.	MEDI	369
Unlu, I.	INOR	99	Vajda, S.	COMP	438	Van Hekken, D.L.	AGFD	140
Unruh, A.	CHED	281	Vajdos, F.F.	MEDI	319	Van Herck, S.	COLL	397
Uosaki, K.	CATL	264	Vajtai, R.	INOR	304	Van Herck, S.	POLY	317
Upadhyay, A.	INOR	224	Vakil, J.	PMSE	25	Van Hest, J.	PMSE	358
Upadhyay, R.	CATL	228	Vakil, J.	PMSE	215	Van Hest, J.	POLY	489
Upadhyaya, P.	TOXI	12	Vakili, P.	ENVR	558	Van Hest, J.	POLY	490
Upham, D.	CATL	294	Vakili, P.	ENVR	800	Vanheyst, M.	ORGN	174
Uppaluri, R.V.	ENFL	366	Vakki, W.	ENFL	216	Van Hoomissen, D.	ENVR	108
Upskuvieni, D.	ENFL	219	Vala, M.M.	ORGN	391	Van Hoomissen, D.J.	ENVR	186
Upton, B.	CELL	33	Valanoor, N.	ENFL	27	Van Houten, K.A.	POLY	559
Urairat, N.	I&EC	53	Valdez, C.A.	ANYL	128	Vanhuis, C.	ORGN	551
Urakawa, A.	CATL	82	Valdez, C.A.	ANYL	129	Vanko, G.A.	PHYS	218
Urakawa, A.	CATL	384	Valdez, C.A.	ANYL	243	Vanko, G.	PHYS	111
Urakawa, A.	CATL	416	Valdez, C.A.	BIOL	91	Van Lanen, S.G.	BIOL	36
Urbach, A.R.	ORGN	424	Valdez, C.A.	BIOL	92	Vannette, R.L.	AGRO	217
Urban, D.J.	MEDI	302	Valdiviezo, J.	COMP	535	Van Nuijs, A.L.	ENVR	512
Urban, J.	ENFL	175	Valdiviezo, J.	PHYS	400	Van Nuijs, A.L.	ENVR	790
Urban, J.	ENFL	373	Valdman, L.	INOR	671	Vanoosten, S.	COLL	410
Urban, J.	MPPG	17	Valencia, R.	ENVR	377	Van Opstal, M.T.	CHED	62
Urban, V.	CELL	10	Valencia, R.	ENVR	430	Vanotti, M.	ENVR	176
Urban, V.	CELL	13	Valenti, T.	AGRO	362	Van Patten, P.G.	COLL	174
Urbina, B.	MEDI	113	Valentine, A.	COLL	428	Van Patten, P.G.	COLL	504
Urbina-Blanco, C.A.	CHED	386	Valentine, C.S.	POLY	285	Van Raden, J.	ORGN	401
Urbina-Blanco, C.A.	INOR	619	Valentini, A.	ORGN	242	Van Rensburg, M.	MEDI	11
Urena, K.	CHED	287	Valentini, A.	PHYS	72	Van Rensburg, M.	MEDI	207
Urena, K.	ENFL	296	Valentini, A.	PHYS	201	Van Rie, J.	CELL	54
Ur, J.J.	MEDI	423	Vallabhuneni, S.	PMSE	30	Van Rossom, J.	CINF	14
Urmann, K.	ENVR	117	Vallavoju, N.	ORGN	398	Van Spronsen, M.	CATL	176
Urner, L.M.	MEDI	212	Valli, M.	CINF	4	Van Spronsen, M.	CATL	458
Urrutia, M.	ORGN	445	Valmier, J.	MEDI	354	Van Stipdonk, M.J.	NUCL	53
Ursu, O.	CINF	115	Valsangkar, V.	PMSE	754	Van Stokkum, I.	PHYS	375
Ursu, O.	CINF	140	Valsasina, B.	MEDI	362	Van Stry, M.	PROF	28
Urzúa, J.	POLY	380	Valsasina, B.	MEDI	365	Van Tol, J.	COLL	44
Usov, P.	CATL	88	Vanacore, G.	PHYS	567	Van Voorhis, T.A.	CATL	213
Usov, P.	INOR	372	Van Akin, C.A.	CHED	240	Van Voorhis, T.A.	COMP	14
Usov, P.	INOR	479	Van Allsburg, K.M.	CATL	170	Van Voorhis, T.A.	COMP	86
Usov, P.	INOR	660	Van Benschoten, W.	CHED	299	Van Voorhis, T.A.	COMP	292
Usta, H.	ANYL	405	Van Bokhoven, J.	CATL	20	Van Voorhis, T.A.	COMP	324
Ustunol, I.	COLL	177	Van Bokhoven, J.	CATL	61	Van Voorhis, T.A.	COMP	355
Ustunol, I.	ENVR	157	Van Bokhoven, J.	CATL	421	Van Voorhis, T.A.	COMP	536
Usuki, T.	ORGN	566	Van Bokhoven, J.	CATL	461	Van Voorhis, T.A.	COMP	553
Usuki, T.	ORGN	572	Van Brecht, B.	INOR	642	Van Voorhis, T.A.	INOR	262
Uto, T.	PMSE	548	Van Buren, D.	PMSE	394	Van Voorhis, T.A.	PHYS	125
Utsunomiya, S.	GEOC	54	Van Cleave, C.	COLL	644	Van Voorhis, T.A.	PHYS	416
Utsunomiya, S.	NUCL	41	Vanco, G.	POLY	198	Van Voorhis, T.A.	PHYS	515
Utterback, R.D.	INOR	57	Vandebroek, L.	INOR	195	Van Wesenbeeck, I.	AGRO	30
Utz, A.	PHYS	172	Vandegrift, J.	CHED	337	Van Wesenbeeck, I.	AGRO	122
Utz, A.	PHYS	453	Van Den Abbeele, P.	AGFD	309	Van Wesenbeeck, I.	AGRO	273
Utz, A.	PHYS	501	Van Den Abbeele, P.	AGFD	317	Van Wyngarden, A.L.	NUCL	3
Utzat, H.	PHYS	271	Vandenbeuch, A.	AGFD	216	Van Zandt, M.	ORGN	648
Uvyn, A.	POLY	273	Van Den Broek, F.	CINF	144	Vanzanten, A.	COLL	292
Uyeda, C.	INOR	86	Van Den Keybus, F.	MEDI	124	Varady, M.	POLY	257
Uzair, U.	ANYL	258	Vandenplas, J.R.	CHED	207	Varanasi, K.	COLL	555
Uzarski, J.R.	COLL	82	Van Den Wiele, T.	AGFD	309	Varanasi, P.	ENVR	352
Uzarski, R.L.	PMSE	684	Van Den Wildenberg, S.	PHYS	72	Varandas, A.A.	PHYS	25
Uzun, A.	CATL	392	Van Den Wildenberg, S.	PHYS	201	Vardar-Ulu, D.	CHED	366
Uzun, S.	AGFD	157	Van Den Wildenberg, S.	PHYS	254	Vardon, D.	CATL	361
Uzzi, B.	NUCL	77	Van Den Wildenberg, S.	PHYS	296	Vardon, D.	CATL	363
V. Wyk, A.	INOR	553	Van Der Donk, W.A.	ORGN	160	Vardon, D.	CATL	405
Vacca Michel, L.	BIOL	27	Van Der Donk, W.A.	ORGN	362	Vardon, D.	ENFL	419
Vacca Michel, L.	BIOL	29	Vandergheynst, J.	AGRO	279	Varga, R.	ORGN	471
Vacca Michel, L.	BIOL	94	Van Der Laan, H.L.	PMSE	149	Varganov, S.A.	ORGN	533
Vachani, A.	TOXI	103	Van Der Laan, H.L.	POLY	356	Vargas, K.M.	COLL	302
Vacher, M.	PHYS	111	Van Der Meer, P.	AGFD	211	Vargas, K.M.	COLL	658
Vachet, R.W.	COLL	232	Van Der Ploeg, L.	MEDI	317	Vargas, K.	PMSE	505
Vadai, M.	COLL	659	Van Der Schans, M.	ANYL	242	Vargas, R.	BIOL	161
Vadai, M.	COLL	741	Vandervelden, C.	CATL	60	Varghese, D.	PMSE	106
Vadai, M.	PHYS	239	Van Der Vlies, A.	COLL	564	Varghese, D.	PMSE	451
Vadas, T.	GEOC	3	Van Der Vlies, A.	COLL	790	Varghese, M.	POLY	339
Vaden, T.D.	BIOL	105	Van Der Weeën, P.	AGRO	343	Vargo, N.P.	INOR	482
Vaden, T.D.	BIOL	107	Van De Vijver, R.	ENFL	102	Varlamova, E.	CINF	143
Vaden, T.D.	PHYS	489	Van De Wouw, H.L.	POLY	399	Varnavski, O.	PHYS	456
Vaghjiani, G.L.	CATL	521	Van Driel, T.	PHYS	217	Varnek, A.	CINF	93
Vaghoo, H.E.	ORGN	613	Van Driel, T.B.	PHYS	111	Varnell, J.	ENFL	383
Vahabi, H.	PMSE	30	Van Dyk, A.	PMSE	801	Varnes, J.	MEDI	70
Vahabi, H.	PMSE	392	Vandyke, M.	ANYL	226	Varnes, J.G.	MEDI	19
Vaia, R.A.	POLY	179	Van Dyke, A.R.	CHED	166	Varongchayakul, N.	COLL	299
Vaia, R.A.	POLY	215	Vanegas, J.M.	COMP	466	Varongchayakul, N.	COLL	778
Vaia, R.A.	POLY	401	Vanegas, J.M.	MEDI	40	Varongchayakul, N.	PMSE	480
Vaicuniene, J.	ENFL	528	Van Emon, J.M.	ENVR	785	Vartak, A.	CARB	116
Vaid, J.	PROF	2	Vaneppps, S.	PMSE	283	Vartak, A.	ORGN	297
Vaidya, N.	ENVR	316	Vang, D.	INOR	154	Varty, G.	MEDI	279
Vaidya, N.	ENVR	718	Van Geem, K.	CINF	166	Vasbinder, M.	MEDI	19
Vaidya, N.A.	SCHB	9	Van Geem, K.	ENFL	102	Vasconcelos, S.	MEDI	160
Vaidya, S.	PMSE	699	Van Geem, K.	ENFL	423	Vasdev, N.	ENFL	537
Vaikuntanathan, S.	I&EC	27	Vangelder, K.F.	ORGN	115	Vasei, M.	COLL	284
Vail, G.	AGRO	49	Vangelder, K.F.	ORGN	506	Vasella, A.	MEDI	378
Vail, N.	POLY	272	Vangelder, L.E.	INOR	52	Vashisth, H.	COMP	341

Vashisth, H.	COMP	364	Vera, G.D.	ENVR	109	Villagran, D.	INOR	672
Vashisth, H.	COMP	387	Vera-Art, S.	AGRO	58	Villalta, P.W.	TOXI	16
Vashisth, H.	COMP	467	Verardi, R.	BIOL	8	Villalta, P.W.	TOXI	38
Vasilenko, V.	INOR	674	Verbeke, C.	POLY	15	Villalta, P.W.	TOXI	55
Vasilyev, M.	ENFL	307	Verbeke, E.	COMP	62	Villalta, P.W.	TOXI	56
Vasovic, D.	MEDI	95	Verbiest, T.	PHYS	357	Villalta, P.W.	TOXI	77
Vasquez, R.	ORGN	505	Verbraeken, B.	POLY	315	Villanueva, M.	COLL	436
Vasu, S.S.	PHYS	570	Verbraeken, B.	POLY	316	Villarreal, P.	ENFL	485
Vasu, V.	PMSE	747	Verdonk, M.	CINF	125	Villarreal, E.	COLL	609
Vasu, V.	POLY	344	Verdonk, M.	COMP	297	Vilseck, J.Z.	CHED	379
Vasu, V.	POLY	357	Verduzco, R.	ENVR	417	Vincent, F.	MEDI	319
Vasudev, M.	COLL	163	Verduzco, R.	ENVR	418	Vincent, K.	CATL	498
Vasudev, M.	COLL	164	Verduzco, R.	ENVR	419	Vincent, R.H.	CHED	218
Vasudev, M.	COMP	392	Verduzco, R.	ENVR	420	Vincon, I.	CATL	410
Vasudevan, R.K.	PMSE	16	Verduzco, R.	ENVR	490	Vindedahl, A.M.	COLL	86
Vatamanu, J.	ENFL	525	Vereecke, K.	ANYL	485	Vindedahl, A.M.	GEOC	41
Vater, A.W.	CHED	90	Verespy, S.	CARB	17	Vinnacombe, G.A.	COLL	292
Vathiyam, S.	CHAL	17	Vergara, J.	CELL	44	Vinnacombe, G.A.	COLL	53
Vattem, D.	AGFD	48	Verghese, N.	PMSE	18	Vinod, N.	CINF	143
Vattem, D.	AGFD	50	Verghese, N.	PMSE	692	Vinson, J.A.	AGFD	22
Vaughan, B.	CHAL	3	Verheijen, M.	CATL	31	Violi, I.	PMSE	283
Vaughan, B.A.	ENFL	118	Verheijen, M.	POLY	30	Viquez Rojas, C.I.	PHYS	175
Vaughan, B.A.	INOR	20	Verhelle, D.	MEDI	282	Vison, A.	CATL	433
Vaughey, J.T.	ANYL	247	Verho, O.	ORGN	184	Vishnevetskaya, N.S.	POLY	316
Vaughey, J.T.	ENFL	472	Verkamp, M.A.	PHYS	523	Vishnosky, N.S.	INOR	495
Vaughn, C.	INOR	731	Verkhoturou, S.V.	PMSE	332	Vishnu, A.	COMP	94
Vaughn, J.F.	MEDI	425	Verma, D.	CATL	222	Vishnyakov, A.	COLL	99
Vaughn, J.F.	MEDI	426	Verma, D.	CATL	276	Vishnyakov, A.	COLL	753
Vauvalle, N.	PMSE	641	Verma, A.	ENFL	19	Visser, N.	CATL	374
Vavrinec, J.	ENVR	671	Verma, M.S.	BIOL	302	Vistoli, G.	AGRO	86
Vayas, R.	TOXI	4	Verma, P.	COMP	518	Vitaku, E.	PMSE	104
Vazquez, E.	ENVR	666	Verma, R.	ENVR	735	Vitaku, E.	PMSE	304
Vazquez, M.	PMSE	332	Vermaas, J.V.	CELL	3	Vitale, G.	ENFL	429
Vazquez, O.	COMP	395	Vermaas, J.V.	COMP	107	Vitale, S.	INOR	140
Vazquez, R.J.	PHYS	444	Vermaas, J.V.	COMP	439	Vivod, S.L.	PMSE	678
Vazquez-Mayagoitia, A.	COMP	173	Vermant, J.	COLL	643	Vlachos, D.G.	CATL	502
Vazquez-Rodriguez, S.	MEDI	267	Vermette, J.	PHYS	133	Vlahov, I.R.	MEDI	425
Vazquez-Rodriguez, S.	MEDI	353	Vernon, R.N.	CHAS	38	Vlahov, I.R.	MEDI	426
Veal, J.	MEDI	370	Verrill, D.E.	POLY	244	Vlamakis, H.	BIOL	302
Veal, M.	AGRO	227	Verrill, D.E.	POLY	360	Vlcek, J.	CATL	326
Veber, G.	ORGN	537	Versace, R.	CHED	174	Vlcek, V.	COMP	35
Vebrosky, E.N.	AGRO	368	Versace, R.	CHED	336	Vlcek, V.	COMP	171
Veccharelli, K.M.	INOR	296	Versteeg, D.	BIOL	173	Vlcek, V.	PHYS	306
Veccharynski, E.	COMP	206	Vertesaljai, P.	ORGN	236	Vo, D.K.	CHED	247
Vecitis, C.D.	ENVR	49	Vervoort, D.	PMSE	358	Vo, H.	ORGN	67
Vecitis, C.D.	ENVR	732	Veryser, C.	ORGN	605	Vodopivec, A.	COLL	549
Vedadi, M.	MEDI	345	Veschi, V.	MEDI	345	Vo Duy, S.	ENVR	182
Vedernikov, A.N.	INOR	344	Veselovsky, A.	COMP	151	Vo Duy, S.	ENVR	731
Vedernikov, A.N.	INOR	598	Veser, G.	CATL	86	Voehler, M.W.	TOXI	106
Veeraiah, R.H.	CARB	27	Vetrone, F.	COLL	525	Voehringer, P.	PHYS	109
Veeraiah, R.H.	CARB	128	Vetrone, F.	INOR	578	Voelcker, N.	PHYS	298
Veige, A.S.	POLY	577	Vetzel, M.	MEDI	425	Voelz, J.	GEOC	41
Veith, G.	ENFL	95	Vetzel, M.	MEDI	426	Vogel, D.	COMP	83
Veith, G.	ENFL	524	Vezzu', K.	ENFL	316	Vogel, D.	COMP	280
Veith, G.	PHYS	167	Via, J.	PMSE	25	Vogel, N.	PMSE	188
Veith, G.	PHYS	346	Via, J.	PMSE	215	Vögele, M.	COMP	102
Vela Ramirez, J.	POLY	21	Via, J.	POLY	158	Vogiazzi, V.	ENVR	209
Velasco, L.	ENVR	652	Vianna, M.G.	ENVR	572	Vogler, N.W.	INOR	765
Velasco-Velazquez, M.	MEDI	169	Vicente, E.	AGFD	46	Vogt, B.D.	CHED	41
Velasquez, A.	BIOL	220	Vicente, I.	CATL	128	Vogt, B.D.	COLL	752
Velasquez, A.	COLL	594	Vicini, A.	ORGN	358	Vogt, B.D.	PMSE	143
Velasquez, C.	CATL	307	Victor, E.	CHED	354	Vogt, B.D.	PMSE	465
Velasquez, I.	CHED	267	Victorious, A.	ANYL	345	Vogt, B.D.	PMSE	674
Velev, O.D.	COLL	561	Vidal, D.	ORGN	661	Vogt, C.D.	MEDI	69
Velev, O.D.	COLL	750	Vidal, V.	AGRO	179	Vogt-Maranto, L.	COLL	594
Velev, O.D.	PMSE	252	Vidali, G.	PHYS	541	Vohs, J.M.	CATL	376
Velev, O.D.	PMSE	313	Vidali, G.	PHYS	588	Voight, E.A.	ORGN	478
Velaz Vega, C.	COMP	570	Videa, M.	CATL	335	Voit, B.	PMSE	45
Velian, A.	INOR	262	Videa, M.	MEDI	446	Voit, B.	PMSE	398
Velinsky, D.	ENVR	640	Vidic, R.D.	COLL	98	Voit, W.	PMSE	392
Veljovic, D.	ENVR	422	Vidic, R.D.	ENVR	501	Voityuk, A.A.	PHYS	405
Veloz-Castillo, M.F.	CHED	288	Viegas, L.P.	PHYS	354	Vojvodic, A.	CATL	266
Veloz-Castillo, M.F.	CHED	289	Vieira, G.B.	ENVR	565	Volk, S.	COLL	519
Vena, A.	PMSE	650	Viernes, D.R.	CHED	214	Völkel, W.	AGRO	121
Venables, B.	MEDI	51	Vieru, V.	INOR	431	Völkel, W.	AGRO	301
Vendrell, O.	PHYS	8	Vifian, T.	MEDI	155	Volkoff, S.	ENVR	322
Veneziano, R.	PHYS	47	Viger-Gravel, J.	INOR	357	Volkov, A.	BIOL	235
Venier, O.	MEDI	368	Vigers, G.P.	MEDI	144	Volkov, A.	CHED	442
Venkatachalam, A.	PMSE	428	Vighetto, V.	COLL	436	Voll, C.A.	ORGN	19
Venkatachalam, A.	PMSE	817	Vignolini, S.	CELL	62	Volle, C.B.	CHED	173
Venkataraman, L.	CHED	279	Vignoni, M.	ORGN	445	Volle, C.B.	CHED	184
Venkataramanaiah, K.	MEDI	65	Vikesland, P.J.	ENVR	392	Volle, C.B.	COLL	528
Venkatesan, A.	ENVR	310	Vikram, A.	COLL	442	Volpe, M.	BIOL	111
Venkatesan, A.	ENVR	423	Vila, A.J.	COMP	253	Volpe, M.	ENVR	227
Venkatesan, A.	ENVR	787	Vila, F.D.	COMP	128	Volpe, M.	ENVR	371
Venkatraman, P.	POLY	167	Vila, M.N.	ENFL	380	Volpe, R.	ENVR	223
Venkatraman, S.	MEDI	4	Vila-Farres, X.	BIOL	133	Volpe, R.	ENVR	228
Venkatramani, R.	ORGN	68	Vilaplana, F.	CARB	87	Volpe, R.	ENVR	300
Venkatramani, S.	INOR	686	Vilas, J.	CELL	69	Von Ahnen, I.	PHYS	8
Venning, A.	ORGN	346	Vilas, J.	POLY	465	Von Bargaen, C.	COMP	450
Venteicher, C.L.	COLL	715	Vilcocca, L.	CATL	485	Vonderscher, J.	BIOL	62
Venton, B.J.	INOR	267	Villa, M.	INOR	550	Von Deyn, W.	AGRO	139
Ventrici De Souza, J.	COLL	116	Villa-Camacho, J.C.	BIOL	287	Vondráček, M.	CATL	326
Vera, C.	CHED	251	Villagran, D.	INOR	55	Vonesh, H.L.	ORGN	618

Vongtiang, T.	ENFL	273	Wagner, B.	CHED	290	Walsh, P.J.	ORGN	53
Von Helden, G.	CARB	16	Wagner, C.R.	BIOL	118	Walsh, P.J.	ORGN	55
Von Helden, G.	CARB	82	Wagner, C.	ENVR	82	Walsh, S.J.	BIOL	304
Von Kieseritzky, J.	PMSE	724	Wagner, C.	ENVR	83	Walt, D.R.	BIOL	96
Von Nussbaum, F.	MEDI	272	Wagner, E.	BIOL	256	Walt, D.R.	BIOL	313
Von Roemeling, C.	COLL	130	Wagner, E.	CATL	405	Walt, D.R.	ANYL	49
Vonwald, G.A.	AGRO	223	Wagner, F.F.	COMP	565	Walter, E.D.	INOR	337
Vonwald, I.	PMSE	659	Wagner, G.	NUCL	22	Walter, J.	AGRO	112
Von Weymarn, L.	TOXI	52	Wagner, J.P.	PHYS	250	Walter, M.G.	ANYL	495
Voo, Z.	POLY	57	Wagner, K.	AGFD	243	Walters, E.	COMP	27
Vaogt, S.	POLY	30	Wagner, K.	COLL	343	Walters, K.	TOXI	56
Vorokhta, M.	CATL	326	Wagner, L.J.	CARB	108	Walters, M.A.	COLL	594
Voronov, A.S.	CHED	219	Wagner, R.	MEDI	369	Walton, B.L.	BIOL	278
Vorotnikov, V.	CATL	405	Wagner, R.	CELL	2	Walton, C.	PROF	33
Vorotnikov, V.	CATL	413	Wagstaff, I.R.	PROF	36	Walton, K.S.	ENFL	369
Voskian, S.	ENVR	440	Wahba, H.	INOR	767	Walton, K.S.	INOR	245
Vosmann, K.	AGFD	44	Wahba, H.	TOXI	28	Walton, R.	PMSE	589
Voter, A.F.	PHYS	269	Wahida, F.	COLL	80	Waluyo, I.	CATL	125
Voth, G.A.	COMP	223	Wahida, F.	ENFL	298	Waluyo, I.	CATL	256
Voutchkova, A.	CATL	135	Wahl, C.	CHED	334	Walzer, J.F.	INOR	284
Voutchkova, A.	CATL	251	Wahl, K.L.	ANYL	485	Wamer, N.C.	TOXI	65
Voutchkova, A.	I&EC	17	Wahlström, N.	CELL	27	Wamer, N.C.	TOXI	67
Voyer, N.	MEDI	184	Waite, D.	ENVR	454	Wan, C.	PMSE	269
Voyer, N.	ORGN	364	Waite, D.	ENVR	523	Wan, C.	PMSE	589
Voyer, N.	ORGN	366	Wakabayashi, R.	COLL	543	Wan, L.	PMSE	349
Voyer, N.	ORGN	660	Wakeda, H.	ANYL	204	Wan, L.	CATL	261
Vraking, M.	PHYS	566	Wakefield, A.	COMP	436	Wan, P.	AGFD	182
Vraking, M.	PHYS	15	Walalawela, N.	ORGN	444	Wan, Q.	CARB	18
Vranic, S.	COLL	364	Walalawela, N.	ORGN	445	Wan, Q.	AGFD	249
Vreeke, M.	BMGT	1	Walba, D.M.	HIST	17	Wan, S.	ENFL	233
Vreeke, M.	SCHB	10	Walczak, M.	CARB	131	Wan, X.	AGFD	64
Vreeke, M.	SCHB	28	Walczak, M.A.	ORGN	465	Wan, X.	AGFD	67
Vrnata, M.	CATL	326	Walczak, M.A.	ORGN	467	Wan, X.	AGFD	72
Vu, A.	ANYL	241	Walden, C.	ENVR	250	Wan, X.	AGFD	199
Vu, K.	ENFL	58	Walder, B.	INOR	357	Wan, X.	AGFD	221
Vu, T.	CHED	274	Walder, B.	INOR	762	Wan, X.	AGFD	256
Vu, V.	COMSCI	3	Waldman, J.	COLL	253	Wan, Y.	AGFD	192
Vu, V.	ORGN	262	Waldman, M.	COMP	526	Wan, Y.	AGFD	194
Vue, J.	ENVR	621	Waldmann, H.	BIOL	50	Wan, Z.	POLY	240
Vukovic, L.	COLL	252	Waldvogel, S.R.	CATL	215	Wang, D.	MPPG	60
Vukovic, L.	COLL	759	Waldvogel, S.R.	ORGN	14	Wang, D.	ENVR	611
Vulpetti, A.	BIOL	267	Waldvogel, S.R.	ORGN	17	Wang, J.	CATL	521
Vulpetti, A.	MEDI	255	Waldvogel, S.R.	ORGN	130	Wang, J.	COLL	489
Vuong, H.	ENVR	29	Waldvogel, S.R.	ORGN	338	Wang, K.	ORGN	601
Vuorinen, A.	MEDI	289	Waldvogel, S.R.	ORGN	552	Wang, S.	MEDI	322
Vuppaladadiyam, A.	ENVR	224	Walia, N.	AGFD	79	Wang, T.	ENVR	419
Vura-Weis, J.	PHYS	56	Walker, A.	CHED	136	Wang, T.	MPPG	60
Vura-Weis, J.	PHYS	523	Walker, A.V.	ANYL	473	Wang, A.	PHYS	441
Vurro, M.	AGRO	140	Walker, A.	CHED	173	Wang, A.P.	TOXI	85
Vyas, A.	ENVR	559	Walker, B.A.	POLY	227	Wang, A.Z.	COLL	535
Vyas, P.	ANYL	517	Walker, D.	ORGN	454	Wang, A.	COLL	739
Vyas, S.	COMP	416	Walker, H.	ENVR	310	Wang, A.	CATL	228
Vyas, S.	ENVR	108	Walker, H.	ENVR	449	Wang, B.	COMP	266
Vyas, S.	ENVR	186	Walker, J.A.	BIOL	237	Wang, B.	CATL	484
Vyas, S.	NUCL	55	Walker, J.	MEDI	26	Wang, B.	INOR	12
Vyas, S.	NUCL	56	Walker, L.	POLY	285	Wang, B.	CARB	43
Vyas, S.	NUCL	86	Walker, M.A.	CINF	171	Wang, B.	POLY	571
Vyas, S.	ORGN	246	Walker, R.	BIOL	14	Wang, C.	AGRO	78
Vyas, S.	POLY	351	Walker, S.L.	ENVR	672	Wang, C.	ANYL	48
Vyborna, Y.	PHYS	47	Walker, S.	ORGN	277	Wang, C.	ANYL	98
Vybornyi, M.	MEDI	376	Walker, S.	ORGN	278	Wang, C.	CATL	519
Vyhmeister, E.C.	CHED	313	Walker, S.	CHED	330	Wang, C.	PMSE	674
Vykoukal, V.	INOR	580	Walker, S.	CARB	94	Wang, C.	COLL	120
Wachs, I.E.	CATL	228	Walker, W.S.	ENVR	417	Wang, C.	PHYS	150
Wachs, I.E.	CATL	240	Walker, W.S.	ENVR	420	Wang, C.	PHYS	302
Wachs, I.E.	CATL	414	Walkowicz, W.E.	SCHB	35	Wang, C.	PMSE	171
Wachs, I.E.	CATL	423	Wall, K.A.	ORGN	297	Wang, C.	POLY	418
Wacker, J.N.	INOR	163	Wallace, A.F.	GEOC	50	Wang, C.	CATL	48
Wacker, M.	CARB	99	Wallace, C.	PHYS	470	Wang, C.	PMSE	204
Wackett, L.P.	BIOL	314	Wallace, C.D.	MEDI	10	Wang, C.	PMSE	449
Wadamoto, M.	MEDI	73	Wallace, J.M.	ENFL	348	Wang, C.	COLL	293
Waddell, I.	MEDI	25	Wallach, I.	CINF	127	Wang, C.	POLY	517
Wade, E.O.	CHED	266	Wallach, I.	CINF	128	Wang, C.	AGFD	9
Wade, T.L.	ENVR	114	Wallach, I.	CINF	129	Wang, C.	ANYL	251
Wadekar, S.	COLL	98	Wallenmeyer, P.	TOXI	14	Wang, C.	INOR	202
Wadepohl, H.	INOR	593	Wallentin, C.	ORGN	169	Wang, C.	ENFL	88
Wadi, V.	PMSE	511	Wallentin, C.	ORGN	369	Wang, C.	ENFL	200
Wadi, V.	PMSE	793	Waller, C.L.	COMP	157	Wang, C.	ANYL	48
Wadsley, M.	AGRO	225	Waller, M.	CINF	147	Wang, C.	ENFL	389
Wadsworth, A.	MEDI	26	Waller, M.	COMP	494	Wang, C.	ENVR	63
Wadsworth, O.	POLY	116	Wallizadeh, Z.	PMSE	495	Wang, C.	ENVR	265
Waegele, M.	ANYL	303	Walmsley, J.	ANYL	169	Wang, C.	PHYS	570
Waegele, M.	CATL	196	Walmsley, J.	ANYL	347	Wang, C.	INOR	54
Waegele, M.	CATL	370	Walmsley, J.	CHED	150	Wang, C.	PMSE	401
Waetzig, S.R.	INOR	696	Walper, S.	ANYL	224	Wang, C.	ENVR	456
Wagberg, L.	CELL	24	Walper, S.	COLL	704	Wang, C.	ANYL	248
Wagberg, L.	CELL	28	Walravens, W.	COLL	679	Wang, C.	ENFL	90
Wagberg, L.	COLL	69	Walse, S.S.	AGRO	44	Wang, C.	ENFL	295
Wagberg, T.	CATL	315	Walse, S.S.	AGRO	181	Wang, C.	PHYS	118
Wager, T.T.	MEDI	331	Walse, S.S.	AGRO	254	Wang, C.	BIOL	219
Waghe, A.B.	CHED	323	Walsh, A.	ORGN	590	Wang, C.	CATL	256
Waghmare, U.	ENFL	499	Walsh, C.J.	ANYL	363	Wang, D.	CARB	79
Waghmani, H.	COLL	569	Walsh, J.P.	PHYS	190	Wang, D.	COLL	584
Wagner, A.G.	BIOL	219	Walsh, J.R.	CHED	344	Wang, D.	MEDI	443

Wang, D.	POLY	240	Wang, J.	ANYL	83	Wang, L.	ORGN	316
Wang, D.	ENVR	828	Wang, J.	CATL	252	Wang, L.	PHYS	273
Wang, D.	MEDI	279	Wang, J.	ANYL	35	Wang, L.	ENVR	66
Wang, D.	ORGN	4	Wang, J.	CATL	250	Wang, L.	COMP	277
Wang, D.	CATL	123	Wang, J.	ENVR	17	Wang, L.	COMP	323
Wang, D.	ENVR	206	Wang, J.	ANYL	498	Wang, L.	ENVR	679
Wang, D.	ENFL	114	Wang, J.	MPPG	83	Wang, L.	INOR	31
Wang, D.	AGFD	153	Wang, J.	BIOL	172	Wang, M.	CATL	3
Wang, D.	COLL	616	Wang, J.	INOR	395	Wang, M.	CATL	33
Wang, D.	ORGN	8	Wang, J.	ENVR	76	Wang, M.	AGRO	283
Wang, D.	ORGN	635	Wang, J.	ENVR	540	Wang, M.	AGRO	285
Wang, D.	PMSE	137	Wang, J.	PHYS	378	Wang, M.	CATL	8
Wang, D.	ANYL	249	Wang, J.	ANYL	505	Wang, M.	CATL	102
Wang, D.	CATL	198	Wang, J.	MEDI	19	Wang, M.	PMSE	761
Wang, D.	CATL	370	Wang, J.	CATL	474	Wang, M.	COMP	349
Wang, D.	COLL	580	Wang, J.	COLL	303	Wang, M.C.	COLL	29
Wang, D.	COMP	485	Wang, J.	ENFL	136	Wang, M.	MEDI	379
Wang, D.	INOR	97	Wang, J.	ENFL	251	Wang, M.	COLL	390
Wang, D.	CHED	47	Wang, J.	BIOL	30	Wang, M.	AGFD	164
Wang, E.	ENVR	297	Wang, J.	AGFD	313	Wang, M.	AGFD	228
Wang, F.	ENVR	312	Wang, J.	AGFD	332	Wang, M.	MPPG	20
Wang, F.	INOR	130	Wang, J.	ANYL	382	Wang, M.	MPPG	45
Wang, F.	INOR	321	Wang, J.	ENVR	73	Wang, P.	BIOL	88
Wang, F.	INOR	650	Wang, J.	COMP	577	Wang, P.	COLL	539
Wang, F.	INOR	765	Wang, J.	ENFL	2	Wang, P.	ENVR	412
Wang, F.	ORGN	190	Wang, J.	INOR	78	Wang, P.G.	CARB	36
Wang, F.	ORGN	443	Wang, J.	COLL	122	Wang, P.G.	CARB	43
Wang, F.	ANYL	248	Wang, J.	INOR	531	Wang, P.	ORGN	420
Wang, F.	PMSE	615	Wang, J.	MEDI	279	Wang, P.	TOXI	13
Wang, F.	MEDI	282	Wang, J.	COLL	451	Wang, P.	ENVR	698
Wang, F.	ENFL	254	Wang, J.	ENVR	791	Wang, P.	ORGN	684
Wang, F.	ENFL	255	Wang, J.	INOR	69	Wang, P.	ENVR	78
Wang, F.	ENFL	256	Wang, J.	PMSE	308	Wang, P.	ENFL	57
Wang, F.	ENFL	257	Wang, J.	ANYL	341	Wang, P.	INOR	238
Wang, F.	ENFL	263	Wang, J.	PMSE	421	Wang, P.	MEDI	264
Wang, F.	I&EC	43	Wang, J.	AGFD	18	Wang, P.	PMSE	18
Wang, F.	PMSE	639	Wang, J.	ANYL	56	Wang, P.	COLL	660
Wang, F.R.	CATL	66	Wang, J.	COLL	117	Wang, P.	ENVR	685
Wang, F.R.	CATL	438	Wang, J.	POLY	539	Wang, Q.	AGFD	27
Wang, F.	ANYL	79	Wang, J.	POLY	544	Wang, Q.	INOR	365
Wang, F.	ANYL	382	Wang, J.	PMSE	84	Wang, Q.	INOR	715
Wang, G.	PMSE	562	Wang, J.	POLY	111	Wang, Q.	ORGN	519
Wang, G.	ANYL	389	Wang, J.	ANYL	221	Wang, Q.	POLY	544
Wang, G.	COLL	650	Wang, J.	COLL	367	Wang, Q.	CARB	20
Wang, G.	CATL	303	Wang, J.	COLL	589	Wang, Q.	ORGN	55
Wang, G.	ENFL	222	Wang, J.	COLL	673	Wang, Q.	PMSE	345
Wang, G.	INOR	677	Wang, J.	MEDI	345	Wang, Q.	PMSE	700
Wang, G.	ENVR	128	Wang, K.	COLL	615	Wang, Q.	ORGN	483
Wang, G.	ENVR	813	Wang, K.	ORGN	263	Wang, Q.	AGFD	160
Wang, G.	CATL	279	Wang, K.	ENVR	268	Wang, Q.	ENFL	52
Wang, G.	ANYL	19	Wang, K.Y.	MEDI	425	Wang, Q.	AGFD	288
Wang, G.	ANYL	211	Wang, K.Y.	MEDI	426	Wang, Q.	ENVR	64
Wang, G.	ANYL	219	Wang, K.K.	ORGN	402	Wang, Q.	PHYS	436
Wang, G.	INOR	226	Wang, L.	PHYS	369	Wang, R.	AGFD	108
Wang, G.	CATL	138	Wang, L.	PHYS	460	Wang, R.	COLL	794
Wang, H.	PHYS	151	Wang, L.	PHYS	463	Wang, R.	PMSE	448
Wang, H.	PMSE	751	Wang, L.	CARB	102	Wang, R.	ENVR	158
Wang, H.	POLY	190	Wang, L.	ANYL	22	Wang, R.	AGRO	16
Wang, H.	CATL	358	Wang, L.	ENVR	9	Wang, S.	CATL	19
Wang, H.	ANYL	299	Wang, L.	INOR	117	Wang, S.	CATL	339
Wang, H.	CATL	33	Wang, L.	MEDI	22	Wang, S.	ENVR	607
Wang, H.	CATL	199	Wang, L.	COMP	423	Wang, S.	INOR	427
Wang, H.	CATL	216	Wang, L.	INOR	262	Wang, S.	COMP	71
Wang, H.	ENFL	150	Wang, L.	ENFL	238	Wang, S.	COLL	691
Wang, H.	ENFL	474	Wang, L.	ENFL	330	Wang, S.	ENFL	461
Wang, H.	INOR	498	Wang, L.	ENVR	239	Wang, S.	CATL	378
Wang, H.	MPPG	53	Wang, L.	ENVR	246	Wang, S.	ENFL	283
Wang, H.	ENFL	169	Wang, L.	ENVR	479	Wang, S.	ENFL	461
Wang, H.	ANYL	22	Wang, L.	INOR	489	Wang, S.	COLL	520
Wang, H.	ANYL	270	Wang, L.	ORGN	665	Wang, S.	BIOL	170
Wang, H.	INOR	265	Wang, L.	POLY	414	Wang, S.	COLL	143
Wang, H.	CATL	430	Wang, L.	ANYL	112	Wang, S.	COLL	701
Wang, H.	CATL	506	Wang, L.	ANYL	132	Wang, S.	PMSE	87
Wang, H.	ENFL	325	Wang, L.	CATL	155	Wang, S.	ORGN	425
Wang, H.	ENFL	452	Wang, L.	CATL	284	Wang, S.	COLL	120
Wang, H.	POLY	156	Wang, L.	PMSE	390	Wang, S.	ENFL	262
Wang, H.	INOR	242	Wang, L.	INOR	296	Wang, S.	ENFL	489
Wang, H.	PMSE	592	Wang, L.	CATL	474	Wang, S.	CARB	36
Wang, H.	CHED	58	Wang, L.	COLL	303	Wang, S.	INOR	168
Wang, H.	GEOC	46	Wang, L.	ENFL	251	Wang, S.	COLL	116
Wang, H.	CATL	203	Wang, L.	PHYS	6	Wang, S.	ENFL	414
Wang, H.	CATL	268	Wang, L.	I&EC	45	Wang, S.	MPPG	108
Wang, H.	COLL	427	Wang, L.	PHYS	208	Wang, S.	MEDI	50
Wang, H.	ENFL	1	Wang, L.	PHYS	157	Wang, S.	ENFL	516
Wang, H.	ENFL	200	Wang, L.	CATL	130	Wang, S.	ENVR	678
Wang, H.	INOR	548	Wang, L.	POLY	462	Wang, S.S.	AGFD	67
Wang, H.	NUCL	16	Wang, L.	COMP	243	Wang, S.	COLL	36
Wang, H.	MEDI	194	Wang, L.	COMP	487	Wang, S.	PMSE	71
Wang, H.	COLL	609	Wang, L.	CATL	103	Wang, S.	AGRO	162
Wang, H.	MEDI	282	Wang, L.	CHED	413	Wang, S.	INOR	323
Wang, H.	PHYS	208	Wang, L.	COLL	222	Wang, S.	ENVR	722
Wang, H.	COLL	705	Wang, L.	COLL	270	Wang, S.	PMSE	623
Wang, I.	CATL	319	Wang, L.	COLL	483	Wang, T.	COLL	650
Wang, I.	CATL	327	Wang, L.	INOR	764	Wang, T.	PMSE	482

Wang, T.	PMSE	550	Wang, Y.	CARB	111	Wang, Z.	POLY	342
Wang, T.T.	AGFD	146	Wang, Y.	COLL	104	Wang, Z.	POLY	427
Wang, T.T.	AGFD	314	Wang, Y.	PMSE	283	Wang, Z.	POLY	620
Wang, T.	MPPG	44	Wang, Y.	COLL	130	Wang, Z.	ENVR	160
Wang, T.	PHYS	6	Wang, Y.	ENVR	375	Wang, Z.	AGFD	203
Wang, T.	ENVR	496	Wang, Y.	ENFL	265	Wang, Z.	CATL	133
Wang, T.	ORGN	171	Wang, Y.	GEOC	8	Wang, Z.	CATL	295
Wang, T.	ORGN	177	Wang, Y.	GEOC	22	Wang, Z.	CATL	32
Wang, T.	ENVR	378	Wang, Y.	AGFD	64	Wang, Z.	COLL	13
Wang, T.	ENFL	297	Wang, Y.	AGFD	221	Wang, Z.	PHYS	547
Wang, T.	ENVR	265	Wang, Y.	AGFD	256	Wang, Z.	INOR	304
Wang, T.	ENFL	148	Wang, Y.	ENVR	266	Wang, Z.	CATL	419
Wang, W.	COLL	624	Wang, Y.	ENVR	436	Wang, Z.	AGFD	313
Wang, W.	COLL	775	Wang, Y.	ENFL	267	Wang, Z.	COLL	747
Wang, W.	COLL	788	Wang, Y.	ENVR	709	Wang, Z.	PMSE	474
Wang, W.	PMSE	339	Wang, Y.	PMSE	738	Wani, O.	ENFL	430
Wang, W.	CATL	129	Wang, Y.	PMSE	775	Wanichacheva, N.	INOR	361
Wang, W.	ENVR	477	Wang, Y.	ENVR	426	Wanichacheva, N.	INOR	551
Wang, W.	AGFD	150	Wang, Y.	TOXI	13	Wanichacheva, N.	INOR	673
Wang, W.	ANYL	72	Wang, Y.	TOXI	18	Wanichacheva, N.	INOR	700
Wang, W.	ANYL	266	Wang, Y.	TOXI	49	Wanichacheva, N.	INOR	701
Wang, W.	ENVR	46	Wang, Y.	ENVR	809	Wanis, J.	CHED	340
Wang, W.	PMSE	30	Wang, Y.	CATL	74	Wanjura, J.D.	AGRO	117
Wang, W.	PMSE	392	Wang, Y.	CATL	242	Wanjura, J.D.	AGRO	232
Wang, W.	POLY	321	Wang, Y.	CATL	362	Wanner, A.	POLY	77
Wang, W.	INOR	132	Wang, Y.	CATL	410	Wanska, M.	MEDI	108
Wang, W.	AGFD	315	Wang, Y.	COLL	234	Ward, A.B.	CARB	73
Wang, W.	POLY	34	Wang, Y.	COLL	427	Ward, C.	INOR	175
Wang, W.	ANYL	67	Wang, Y.	COLL	500	Ward, C.	ANYL	547
Wang, W.	ORGN	155	Wang, Y.	INOR	458	Ward, D.	CHED	405
Wang, W.	PMSE	71	Wang, Y.	COLL	582	Ward, L.	AGRO	183
Wang, W.	PHYS	572	Wang, Y.	ENVR	601	Ward, M.D.	COLL	746
Wang, W.	COLL	17	Wang, Y.	PMSE	778	Ward, S.P.	PMSE	315
Wang, W.	COLL	709	Wang, Y.	MEDI	64	Ward, S.	CINF	12
Wang, W.	PMSE	566	Wang, Y.	CATL	60	Ward, T.	ANYL	61
Wang, W.	CATL	186	Wang, Y.	MEDI	281	Warden, E.	INOR	684
Wang, X.	AGFD	35	Wang, Y.	AGFD	63	Wardle, B.L.	COLL	42
Wang, X.	ENVR	65	Wang, Y.	AGFD	67	Wardle, B.L.	POLY	454
Wang, X.	GEOC	43	Wang, Y.	AGFD	135	Ward-Smith, S.	ENVR	821
Wang, X.	ENFL	85	Wang, Y.	AGFD	205	Ware, B.	CHED	229
Wang, X.	ENFL	459	Wang, Y.	AGFD	220	Warmoth, R.	CHED	188
Wang, X.	CATL	352	Wang, Y.	AGFD	304	Warmoth, R.	CHED	333
Wang, X.	COLL	616	Wang, Y.	ANYL	147	Warneke, J.	ANYL	82
Wang, X.	ORGN	7	Wang, Y.	ANYL	525	Warneke, J.	ANYL	85
Wang, X.	MEDI	108	Wang, Y.	ENVR	191	Warneke, J.	COMP	92
Wang, X.	MEDI	303	Wang, Y.	CINF	119	Warneke, S.	ENFL	152
Wang, X.	I&EC	20	Wang, Y.	PMSE	288	Warner, C.	COLL	269
Wang, X.	ENFL	336	Wang, Y.	INOR	210	Warner, J.C.	YCC	12
Wang, X.	POLY	513	Wang, Y.	AGFD	205	Warner, R.	INOR	731
Wang, X.	ORGN	45	Wang, Y.	CATL	379	Warner Clement, J.	CHED	156
Wang, X.	ENVR	393	Wang, Y.	ENFL	461	Warnick, J.	AGRO	186
Wang, X.	CHED	442	Wang, Y.	PMSE	662	Wärnmark, K.	PHYS	111
Wang, X.	AGFD	163	Wang, Y.	CATL	496	Warnock, M.	CHED	265
Wang, X.	ENVR	126	Wang, Y.	CATL	497	Warren, M.	ENVR	148
Wang, X.	PMSE	529	Wang, Y.	MEDI	118	Warren, T.H.	INOR	559
Wang, X.	ENFL	67	Wang, Y.	COLL	730	Warring, L.	INOR	519
Wang, X.	INOR	142	Wang, Y.	MEDI	29	Warter, M.	PHYS	538
Wang, X.	AGFD	19	Wang, Y.	ANYL	434	Wartmann, M.	MEDI	20
Wang, X.	PHYS	205	Wang, Y.	ENFL	280	Wasalathanthri, N.D.	INOR	33
Wang, X.	CELL	20	Wang, Y.	ANYL	469	Washburn, N.	AGFD	323
Wang, X.	MEDI	268	Wang, Y.	COMSCI	7	Washburn, N.	ENVR	799
Wang, X.	COMP	185	Wang, Y.	INOR	150	Washington, A.	PMSE	65
Wang, X.	ENVR	582	Wang, Y.	INOR	644	Washington, K.	COLL	626
Wang, X.	CATL	132	Wang, Y.	ORGN	461	Washington, M.P.	MEDI	178
Wang, X.	ANYL	78	Wang, Z.	PMSE	774	Washington, M.N.	CHED	236
Wang, X.	MEDI	279	Wang, Z.	POLY	469	Wasielewski, M.R.	INOR	108
Wang, X.	CHED	305	Wang, Z.	INOR	248	Wasielewski, M.R.	INOR	441
Wang, X.	ANYL	521	Wang, Z.	ENFL	536	Wasielewski, M.R.	PHYS	442
Wang, X.	MEDI	117	Wang, Z.	ENVR	51	Wasko, M.	COMP	366
Wang, X.	COLL	229	Wang, Z.	POLY	43	Wass, O.F.	CHED	158
Wang, X.	ENFL	170	Wang, Z.	PHYS	455	Wasserman, A.	COMP	15
Wang, X.	PHYS	21	Wang, Z.	GEOC	51	Waszczuk, J.	MEDI	21
Wang, X.	PMSE	565	Wang, Z.	PMSE	577	Watanabe, K.	INOR	79
Wang, X.	PMSE	566	Wang, Z.	PMSE	805	Watanabe, A.	PMSE	334
Wang, X.	POLY	341	Wang, Z.	PMSE	818	Watanabe, D.	ORGN	572
Wang, X.	ENVR	98	Wang, Z.	COLL	391	Watanabe, M.	POLY	196
Wang, X.	ENVR	178	Wang, Z.	ANYL	147	Watanabe, M.	INOR	422
Wang, X.	ANYL	188	Wang, Z.	INOR	367	Watanabe, T.	PMSE	181
Wang, X.	MEDI	260	Wang, Z.	PMSE	565	Watanabe, Y.	AGFD	130
Wang, X.	ORGN	478	Wang, Z.	PMSE	566	Watermann, P.	COLL	532
Wang, X.	MEDI	321	Wang, Z.	POLY	341	Waters, A.	ORGN	175
Wang, Y.	COLL	234	Wang, Z.	POLY	620	Waters, M.	BIOL	22
Wang, Y.	AGFD	257	Wang, Z.	ENFL	303	Waterson, A.G.	MEDI	299
Wang, Y.	AGFD	147	Wang, Z.	CHED	88	Waterson, A.G.	MEDI	302
Wang, Y.	BIOL	64	Wang, Z.	COLL	37	Wathen, M.	CHED	418
Wang, Y.	ENFL	455	Wang, Z.	ENFL	331	Watkins, D.L.	PMSE	14
Wang, Y.	ENVR	215	Wang, Z.	CATL	354	Watkins, D.L.	POLY	223
Wang, Y.	ENVR	546	Wang, Z.	ENVR	256	Watkins, J.J.	ENFL	279
Wang, Y.	PHYS	555	Wang, Z.	ENVR	325	Watkins, J.J.	ENFL	357
Wang, Y.	COLL	142	Wang, Z.	ENVR	702	Watson, B.	MEDI	330
Wang, Y.	PMSE	753	Wang, Z.	ENVR	703	Watson, G.B.	AGRO	2
Wang, Y.	ENVR	93	Wang, Z.	INOR	24	Watson, G.	AGRO	267
Wang, Y.	AGFD	261	Wang, Z.	ORGN	646	Watson, K.	AGRO	380
Wang, Y.	PMSE	190	Wang, Z.	PMSE	714	Watson, K.	BMGT	3

Watson, R.	ORGN	284	Wei, S.	CHED	279	Weizman, H.	CHAS	29
Watson, S.	COMP	375	Wei, S.	CHED	280	Weizmann, Y.	MPPG	35
Wattanatorn, N.	COLL	434	Wei, T.	COLL	665	Welborn, M.	COMP	355
Wattanatorn, N.	COLL	520	Wei, T.	PMSE	723	Welborn, M.	COMP	553
Watts, B.	MEDI	54	Wei, W.	ANYL	346	Welch, B.	COMP	517
Watts, D.B.	INOR	598	Wei, W.	CATL	137	Welch, C.J.	HIST	22
Watts, S.	CINF	41	Wei, W.	ENFL	73	Welch, R.P.	COLL	83
Watzky, M.	COLL	509	Wei, W.	MPPG	94	Weldekidan, H.	ENFL	304
Wawer, M.J.	BIOL	281	Wei, W.	PHYS	75	Welford, A.	PMSE	661
Waybright, J.	MEDI	138	Wei, W.	PHYS	538	Welke, B.	PMSE	203
Wayment-Steele, H.K.	WCC	5	Wei, X.	ENVR	240	Wellendorph, P.	MEDI	137
Waymouth, R.M.	POLY	534	Wei, X.	COLL	616	Weller, D.P.	INOR	272
Waynant, K.V.	CHED	412	Wei, X.	PMSE	588	Wellhöfer, I.	ORGN	292
Waynant, K.V.	GEOC	18	Wei, Y.	PMSE	218	Wellman, S.	CHED	97
Waynant, K.V.	INOR	639	Wei, Y.	COLL	743	Wells, G.	ENVR	249
Waynant, K.V.	INOR	703	Wei, Y.	CATL	515	Wells, L.	CARB	130
Wayner, C.	ENVR	327	Wei, Z.	INOR	142	Welsh, E.A.	PMSE	649
Weathers, C.	ENVR	417	Wei, Z.	INOR	157	Welz, B.	ANYL	176
Weaver, A.P.	BIOL	63	Wei, Z.	INOR	341	Wen, P.	PMSE	770
Weaver, D.	MEDI	143	Wei, Z.	INOR	554	Wen, B.	CATL	227
Weaver, J.A.	PMSE	478	Wei, Z.	POLY	388	Wen, J.	CATL	474
Webb, J.A.	CHED	102	Wei, Z.	AGFD	208	Wen, J.	COLL	303
Webb, P.B.	CATL	117	Wei, Z.	ANYL	269	Wen, L.	COLL	599
Webb, S.J.	CINF	53	Weibel, S.	PHYS	192	Wen, P.	MEDI	40
Webb, S.J.	TOXI	40	Weichman, M.L.	PHYS	178	Wen, W.	CATL	419
Webb, S.L.	INOR	280	Weickhardt, A.	BIOL	178	Wen, W.	ENVR	113
Webb, W.R.	CATL	84	Weidman, C.	MEDI	204	Wen, W.	COLL	242
Webber, T.	INOR	248	Weidman, C.	MEDI	437	Wen, X.	COLL	242
Weber, A.Z.	ENFL	374	Weidman, M.	ENVR	835	Wen, X.	BIOL	161
Weber, A.	CHED	203	Weigandt, K.M.	CELL	56	Wen, X.	COLL	213
Weber, C.	ORGN	458	Weigelt, C.	MEDI	56	Wen, Y.	PMSE	770
Weber, E.	AGRO	245	Weight, B.M.	COMP	285	Wen, Y.	ANYL	112
Weber, J.E.	INOR	421	Weiland, R.	ANYL	106	Wen, Y.	ANYL	132
Weber, J.	GEOC	37	Weilert, T.	NUCL	20	Wen, Z.	POLY	8
Weber, K.P.	ENVR	360	Weimann, Y.	ENFL	313	Wencewicz, T.A.	BIOL	174
Weber, K.P.	ENVR	361	Weinacht, T.	PHYS	196	Wencewicz, T.A.	BIOL	300
Weber, P.M.	PHYS	9	Weinberger, D.	CATL	50	Wencewicz, T.A.	BIOL	301
Weber, P.M.	PHYS	11	Weiner, R.G.	ENVR	289	Wencewicz, T.A.	MEDI	47
Weber, P.M.	PHYS	336	Weiner, R.G.	ENVR	357	Wencewicz, T.A.	MEDI	48
Weber, P.M.	PHYS	383	Weiner, S.	PMSE	819	Wencewicz, T.A.	ORGN	629
Weber, P.M.	PHYS	430	Weingartz, N.	PHYS	318	Wendell, C.I.	ORGN	503
Weber, P.M.	PHYS	430	Weingartz, N.	PHYS	440	Wendland, M.S.	PMSE	205
Webster, C.E.	INOR	238	Weinglass, A.	MEDI	311	Wendlandt, A.	CATL	493
Webster, D.C.	COLL	432	Weinhold, J.	POLY	536	Wendling, K.S.	CHED	151
Webster, D.C.	POLY	45	Weininger, S.J.	HIST	25	Wendling, K.S.	CHED	434
Webster, G.H.	CHED	62	Weinreich, T.M.	COMP	148	Wendt, J.L.	PROF	23
Webster, G.H.	WCC	17	Weintraub, R.A.	CHED	10	Wendt, M.D.	ORGN	223
Webster, T.	BIOL	52	Weintraub, S.	PMSE	792	Weng, L.	TOXI	103
Webster, T.	COLL	215	Weir, H.	COMP	324	Weng, Z.	CATL	33
Webster, T.	MEDI	42	Weisberg, E.	MEDI	30	Wenger, O.S.	INOR	636
Webster, T.	MEDI	443	Weise, N.	PMSE	73	Wenger, O.S.	ORGN	23
Webster, T.	PMSE	762	Weiss, A.	MEDI	20	Wenhua, J.	ORGN	7
Webster, T.	YCC	13	Weiss, C.	ENVR	834	Wensink, H.H.	CELL	65
Webster, T.J.	COLL	258	Weiss, D.J.	NUCL	85	Wensink, H.H.	CELL	70
Webster-Gardiner, M.	ENFL	118	Weiss, E.	PHYS	150	Wente, C.D.	AGRO	48
Wechsler, R.J.	POLY	332	Weiss, E.	PHYS	302	Wentworth, I.	COLL	237
Weck, M.	COLL	506	Weiss, E.A.	COMP	120	Wentzel, M.	CHED	115
Weck, M.	COLL	746	Weiss, E.A.	ENFL	393	Wenxu, Z.	ANYL	254
Weck, M.	PMSE	26	Weiss, E.A.	PHYS	267	Weon, J.	PMSE	364
Weck, M.	POLY	37	Weiss, E.A.	PHYS	576	Weon, S.	ENVR	804
Weck, M.	POLY	180	Weiss, M.	MEDI	150	Werba, O.	POLY	367
Weckhuysen, B.M.	CATL	446	Weiss, P.S.	ANYL	178	Werber, J.	ENVR	159
Wedel, B.	AGRO	139	Weiss, P.S.	ANYL	201	Werber, J.	ENVR	216
Weder, C.	PMSE	162	Weiss, P.S.	ANYL	426	Werber, J.	ENVR	219
Weder, C.	POLY	383	Weiss, P.S.	COLL	53	Werner, D.	ENVR	427
Weder, C.	POLY	396	Weiss, P.S.	COLL	292	Werner, D.	ENVR	429
Wedge, D.E.	AGRO	143	Weiss, P.S.	COLL	434	Werner, D.	GEOC	66
Weeks, E.	CHAL	21	Weiss, P.S.	COLL	438	Werner, J.	PMSE	107
Weeks, K.M.	COMP	189	Weiss, P.S.	COLL	520	Werner, J.	PMSE	584
Weerapana, E.	BIOL	121	Weiss, P.S.	COLL	567	Werner, J.	POLY	26
Weerapana, E.	INOR	603	Weiss, P.S.	COLL	698	Werner, J.	POLY	624
Weerasiri, K.	INOR	614	Weiss, P.S.	INOR	579	Werner, P.	PHYS	14
Weerathunge, P.	ANYL	281	Weiss, P.S.	MPPG	67	Wernet, P.	PHYS	58
Weersink, R.	COLL	30	Weiss, P.S.	MPPG	70	Wernet, P.	PHYS	108
Weetall, M.	MEDI	286	Weiss, P.S.	MPPG	76	Wernet, P.	PHYS	159
Wehlin, S.A.	INOR	666	Weiss, P.S.	PMSE	282	Wernsdorfer, W.	INOR	507
Wehrsponh, R.B.	MPPG	1	Weiss, P.S.	PMSE	309	Werst, K.	COLL	644
Wei, B.	ANYL	94	Weiss, R.A.	PMSE	674	Werth, C.J.	INOR	581
Wei, B.	MEDI	15	Weiss, T.	COLL	345	Werth, L.K.	COLL	482
Wei, C.	ENFL	191	Weissenberger, T.	ENFL	433	Werther, P.	PHYS	445
Wei, C.	AGFD	224	Weisser, M.	CINF	74	Wertjes, W.C.	ORGN	52
Wei, C.	ENVR	8	Weisz, A.	AGFD	95	Wertjes, W.C.	ORGN	339
Wei, C.	AGFD	70	Weisz, A.	ANYL	107	Wertz, D.	ORGN	64
Wei, H.	POLY	420	Weisz, D.	ANYL	181	Wertz, D.	ORGN	237
Wei, H.	ENVR	536	Weisz, D.	NUCL	18	Wesdemiotis, C.	ANYL	94
Wei, H.	ANYL	285	Weitz, D.A.	COLL	705	Wesdemiotis, C.	ANYL	472
Wei, H.	ENFL	349	Weitz, D.A.	POLY	26	Weselinski, L.	ORGN	395
Wei, H.	ENVR	676	Weitz, D.A.	POLY	624	Weselinski, L.J.	TOXI	37
Wei, J.	ANYL	79	Weiwier, M.	COMP	565	Wesolowski, D.	GEOC	4
Wei, J.	CARB	14	Weix, D.	ENFL	396	Wesolowski, S.	MEDI	333
Wei, P.	ENFL	172	Weix, D.	ORGN	341	Wesolowski, S.S.	MEDI	359
Wei, P.	POLY	165	Weix, D.	ORGN	469	Wessels, F.	AGRO	2
Wei, Q.	ENFL	128	Weix, D.J.	INOR	83	Wessels, F.	AGRO	170
Wei, S.	AGFD	62	Weix, D.J.	ORGN	79	West, J.K.	INOR	154
Wei, S.	AGFD	259	Weiz, A.	INOR	14	West, J.K.	INOR	155

West, J.K.	INOR	156	White, T.D.	ORGN	134	Wiley, B.J.	COLL	518
West, J.K.	INOR	647	White, T.J.	POLY	509	Wiley, B.J.	COLL	583
West, M.	CHED	304	White, V.	CHED	276	Wiley, J.B.	INOR	464
West, M.	ENVR	118	White, W.	AGRO	53	Wiley, J.B.	INOR	465
West, R.H.	CATL	154	Whitehead, T.	PMSE	204	Wiley, R.	CHED	320
West, R.H.	CINF	157	Whiteker, G.T.	COMP	135	Wiley, T.E.	PHYS	351
West, R.H.	CINF	172	Whiteker, G.T.	AGRO	96	Wilhelm, A.	MEDI	363
West, R.H.	COMP	458	Whiteker, G.T.	AGRO	131	Wilhelm, M.J.	MEDI	234
West, R.H.	ENFL	447	Whiteker, G.T.	AGRO	251	Wilhelmsen, C.J.	PHYS	355
West, R.H.	ENVR	302	Whitely, M.	PMSE	69	Wilke, J.	CHED	40
Westerhoff, L.	COMP	296	Whitesides, G.M.	ANYL	12	Wilke, J.	COLL	148
Westerhoff, L.	COMP	448	Whitesides, G.M.	ANYL	294	Wilkerson, M.P.	NUCL	22
Westerhoff, L.	COMP	493	Whitesides, G.M.	ANYL	469	Wilkes, R.A.	BIOL	216
Westerhoff, P.K.	CHED	120	Whitesides, G.M.	BIOL	302	Wilkins, B.P.	ANYL	246
Westerhoff, P.K.	ENVR	12	Whitesides, G.M.	MPPG	80	Wilkins, B.	INOR	431
Westerhoff, P.K.	ENVR	423	Whitesides, G.M.	ORGN	667	Wilkins, D.	ANYL	62
Westerhoff, P.K.	ENVR	424	Whitesides, G.M.	PHYS	425	Wilkins, D.	ANYL	295
Westerhoff, P.K.	ENVR	486	Whitesides, G.M.	PMSE	195	Wilkins, L.E.	PMSE	633
Westerhoff, P.K.	ENVR	487	Whitford, P.C.	PHYS	441	Wilkinson, I.	MEDI	289
Westerhoff, P.K.	ENVR	488	Whitman, J.	AGFD	76	Wilkinson, L.	INOR	520
Westerhoff, P.K.	ENVR	489	Whitman, J.	AGFD	77	Wilkinson, T.	CHED	180
Westerhoff, P.K.	ENVR	491	Whitman, L.J.	MPPG	79	Wilklow-Marnell, M.	INOR	275
Westerhoff, P.K.	ENVR	493	Whitmore, E.K.	COMP	330	Wilklow-Marnell, M.	INOR	378
Westerhoff, P.K.	ENVR	816	Whitmore, L.	COMP	404	Wilks, M.Q.	MPPG	69
Westerman, D.	ENVR	515	Whitnell, R.M.	CHED	62	Willard, A.	COMP	340
Westhouse, R.	MEDI	265	Whittaker, A.M.	ORGN	22	Willard, A.	COMP	511
Weston, M.	INOR	122	Whittaker, A.	PMSE	114	Willard, A.	POLY	156
Westover, A.	PHYS	167	Whittaker, M.H.	ENVR	315	Willard, E.	INOR	556
Westra, P.	AGRO	104	Whittlemore, T.J.	INOR	315	Willard, S.	AGRO	284
Wettstein, S.	CATL	364	Whitten, J.E.	COLL	152	Willatt, M.	COMP	498
Wetzler, S.	POLY	140	Whitten, J.E.	PMSE	649	Willett, C.D.	AGRO	15
Wex, B.	COMP	313	Whitty, A.	COMP	438	Willett, C.D.	AGRO	45
Weymuth, T.	ORGN	193	Wickrama, R.	ORGN	305	Willett, C.D.	AGRO	324
Wezenzski, E.	ENVR	20	Wickramasinghe, L.A.	INOR	219	Willett, D.	AGRO	219
Whalen, K.	CARB	53	Wickramasinghe, S.	COLL	218	Williams, A.	ANYL	486
Whaley, M.	CARB	7	Wickramasinghe, S.	COLL	261	Williams, A.J.	AGRO	19
Whaley, M.	POLY	410	Wickramasinghe Weerakkodi, L.A.	INOR	176	Williams, A.J.	AGRO	29
Whaley, W.L.	MEDI	439	Wickstrom, L.	COMP	489	Williams, A.J.	AGRO	107
Wharen, R.	COLL	130	Wickstrom, L.B.	COMP	339	Williams, A.J.	ANYL	100
Whatling, C.	MEDI	320	Widdison, W.C.	ORGN	543	Williams, A.J.	ANYL	286
Whatling, P.	AGRO	90	Widenhoefer, R.	INOR	620	Williams, A.J.	CINF	32
Whatling, P.	AGRO	365	Widicus Weaver, S.L.	PHYS	81	Williams, A.J.	CINF	62
Wheaton, A.M.	INOR	757	Widicus Weaver, S.L.	PHYS	136	Williams, A.J.	ENVR	115
Wheaton, D.L.	PROF	6	Widlicka, D.	PHYS	591	Williams, A.J.	ENVR	152
Wheeler, D.	ORGN	417	Wiebe, C.	ORGN	492	Williams, A.J.	ENVR	164
Wheeler, K.	ANYL	96	Wiebe, C.	INOR	439	Williams, A.J.	ENVR	314
Wheeler, K.	ANYL	523	Wiebenga-Sanford, B.P.	GEOC	1	Williams, A.J.	BIOL	71
Wheeler, K.A.	CHED	290	Wiedman, J.	MEDI	310	Williams, A.M.	ANYL	243
Wheeler, K.A.	CHED	313	Wiedner, E.S.	INOR	337	Williams, B.P.	INOR	302
Wheeler, K.A.	CHED	316	Wieggersma, T.	CATL	104	Williams, B.L.	PMSE	438
Wheeler, M.D.	INOR	451	Wieliczka, B.M.	COLL	680	Williams, C.F.	AGFD	103
Wheeler, R.A.	COMP	47	Wiemer, A.J.	MEDI	121	Williams, C.K.	INOR	312
Wheeler, R.	PMSE	270	Wiemer, A.J.	MEDI	232	Williams, C.K.	PMSE	60
Wheeler, S.E.	CATL	499	Wiemer, A.J.	MEDI	436	Williams, C.	MEDI	176
Wheeler, S.E.	COMP	233	Wiener, C.	PMSE	674	Williams, C.	MEDI	196
Whitaker, K.	COLL	401	Wiesbrock, F.	PMSE	704	Williams, C.B.	POLY	143
Whitaker, K.	COLL	479	Wiesbrock, F.	PMSE	772	Williams, C.B.	POLY	505
Whitaker, M.	CATL	12	Wiesbrock, F.	POLY	77	Williams, C.	ENVR	79
Whitaker, M.	CATL	271	Wiesbrock, F.	POLY	129	Williams, D.	CHED	307
Whitaker, M.	ENFL	413	Wiesbrock, F.	POLY	277	Williams, D.S.	POLY	489
Whitby, J.	AGRO	198	Wiesbrock, F.	POLY	298	Williams, D.S.	POLY	490
Whitby, J.	AGRO	203	Wiesbrock, F.	POLY	429	Williams, D.N.	ANYL	440
White, A.	COMP	551	Wiesholler, L.M.	COLL	383	Williams, D.N.	COLL	769
White, A.	BIOL	198	Wiesner, M.	ENVR	104	Williams, E.H.	ANYL	477
White, A.	PMSE	480	Wiesner, U.B.	PMSE	107	Williams, G.	ENFL	522
White, C.	COLL	630	Wiesner, U.B.	PMSE	138	Williams, J.	ENVR	515
White, D.	ENVR	213	Wiesner, U.B.	PMSE	584	Williams, J.	AGRO	275
White, E.	CATL	168	Wiesner, U.B.	PMSE	585	Williams, J.P.	MEDI	339
White, H.S.	ANYL	479	Wiesner, U.B.	POLY	624	Williams, J.	CATL	209
White, H.S.	ENVR	768	Wiesner, U.B.	POLY	625	Williams, J.	ENVR	465
White, J.F.	CATL	170	Wiggin, E.	CHED	70	Williams, J.	NUCL	34
White, J.C.	ENVR	543	Wijaya, W.	AGFD	211	Williams, K.	BIOL	273
White, J.D.	CINF	54	Wijayaratna, U.	ANYL	411	Williams, L.	PMSE	580
White, J.P.	COLL	706	Wijesinghe, S.	ANYL	439	Williams, N.	PROF	12
White, J.	PHYS	472	Wijesiri, N.	BIOL	88	Williams, N.J.	I&E	47
White, J.	PHYS	516	Wijesooriya, C.S.	ANYL	501	Williams, N.J.	I&E	56
White, J.	CARB	79	Wijethunga, T.K.	COLL	81	Williams, N.E.	PHYS	157
White, K.	PMSE	615	Wijethunga, T.K.	COLL	508	Williams, R.	POLY	230
White, M.	ORGN	31	Wijntjes, C.	AGRO	121	Williams, R.L.	PROF	3
White, M.	ORGN	500	Wijntjes, C.	AGRO	301	Williams, R.B.	ORGN	649
White, M.	ORGN	503	Wiktelijs, D.	ANYL	239	Williams, S.	ANYL	32
White, M.	ENFL	244	Wilcox, D.	INOR	566	Williams, S.	CELL	50
White, M.G.	ANYL	83	Wilcox, D.	INOR	763	Williams, S.	ENVR	363
White, M.G.	CATL	35	Wilcox, D.	INOR	767	Williams, S.	INOR	433
White, M.G.	CATL	63	Wilcox, D.	TOXI	28	Williams, S.	INOR	734
White, M.G.	CATL	252	Wilcox, D.	MEDI	22	Williams, S.	MEDI	437
White, N.J.	ENVR	197	Wilcox, M.	ANYL	157	Williams, S.	BIOL	292
White, P.	POLY	490	Wildeus, S.	AGFD	121	Williams, S.	CHED	273
White, R.J.	ANYL	261	Wile, B.	INOR	502	Williams, S.A.	MEDI	371
White, R.J.	ANYL	377	Wilems, T.	POLY	67	Williams, T.	ANYL	480
White, R.J.	ANYL	524	Wilent, J.	ORGN	110	Williams, W.M.	AGRO	89
White, R.	ANYL	427	Wiles, H.	COLL	550	Williams, W.M.	AGRO	91
White, S.S.	BMGT	1	Wiles, J.A.	MEDI	261	Williams, W.M.	AGRO	353
White, S.S.	SCHB	10	Wiley, B.J.	COLL	254	Williamson, B.H.	CHED	293

Williamson, B.H.	MEDI	148	Wipf, D.	ANYL	434	Wong, S.S.	ENFL	330
Williamson, J.	POLY	603	Wipf, P.	MEDI	214	Wong, S.S.	INOR	50
Williamson, J.	CHED	307	Wipf, P.	MEDI	298	Wong, S.S.	INOR	489
Williamson, K.	WCC	2	Wirth, H.J.	ENVR	183	Wong, S.S.	MPPG	25
Williams-Young, D.	COMP	159	Wirth, H.J.	PMSE	144	Wong, T.	ENFL	251
Williams-Young, D.B.	COMP	206	Wise, A.	MEDI	24	Wong, T.	ENVR	556
Williard, P.G.	ORGN	132	Wisehart, L.	PMSE	505	Wong, W.W.	PHYS	413
Willis, B.	ENVR	601	Wishard, A.	ORGN	516	Wong, W.W.	PHYS	419
Willis, B.A.	MEDI	330	Wishart, D.	CINF	133	Wong, W.W.	PHYS	516
Willis, C.L.	POLY	195	Wishart, J.F.	CHED	278	Wongwilai, W.	CHED	371
Willis, C.	POLY	463	Wishart, J.F.	CHED	287	Wongwilai, W.	CHED	384
Willis, J.	CATL	377	Wishart, J.F.	CHED	327	Woo, C.	BIOL	80
Willis, M.C.	ORGN	133	Wishart, J.F.	ENFL	296	Woo, C.	BIOL	145
Willis, N.J.	MEDI	289	Wishart, J.F.	I&EC	12	Woo, C.	BIOL	232
Willis, W.B.	AGRO	232	Wisniewska, H.	ORGN	7	Woo, C.	CARB	76
Willmore, J.A.	CINF	40	Wisniewski, M.	CHED	175	Woo, H.	ANYL	44
Willner, I.	ANYL	278	Wisniewski, N.	ANYL	324	Woo, K.	INOR	435
Willner, M.	ENVR	392	Wisnovsky, S.P.	CARB	108	Woo, K.	COLL	118
Willoughby, A.W.	I&EC	8	Wissinger, J.E.	CHED	55	Woo, S.	AGFD	109
Willson, C.G.	PMSE	527	Wissinger, J.E.	CHED	403	Wood, B.	PHYS	345
Willson, T.	MEDI	160	Wissinger, J.E.	CHED	407	Wood, D.L.	ENFL	403
Willson, T.	MEDI	187	Wissinger, J.E.	PRES	9	Wood, G.	MEDI	206
Wilmot, J.	AGRO	172	Witcher, S.L.	POLY	349	Wood, J.E.	CHED	317
Wilmot, J.	ORGN	464	Witczak, Z.J.	CARB	60	Wood, M.	ENFL	403
Wilson, A.	AGRO	284	Witczak, Z.J.	CARB	63	Wood, M.	ENVR	834
Wilson, A.	PMSE	338	Withers, S.G.	BIOL	2	Wood, M.	CHED	189
Wilson, A.J.	PHYS	300	Withers, S.G.	CARB	105	Wood, R.	PHYS	157
Wilson, A.K.	COMP	165	Witkin, J.	MEDI	189	Wood, S.G.	CHED	98
Wilson, A.K.	COMP	516	Witkowski, A.M.	POLY	4	Wood, V.	COLL	519
Wilson, B.A.	MEDI	49	Witkowski, A.M.	POLY	55	Wood, V.	COLL	522
Wilson, B.E.	ENFL	89	Witt, W.C.	COMP	84	Wood, V.	PHYS	64
Wilson, B.C.	ANYL	449	Witte, V.	CATL	165	Wood, Z.A.	INOR	518
Wilson, D.	ANYL	15	Witt-Enderby, P.	COMP	366	Wood, Z.	CARB	93
Wilson, D.A.	POLY	22	Wittmar, A.	PMSE	599	Woodall, B.	ANYL	113
Wilson, D.A.	POLY	549	Witzke, R.	INOR	624	Woodard, L.N.	PMSE	598
Wilson, F.	MEDI	289	Wlodek, S.	COMP	225	Woodbury, B.	ENVR	79
Wilson, G.	ORGN	110	Wodrich, M.D.	INOR	18	Woodcock, H.L.	COMP	241
Wilson, G.O.	PMSE	795	Woell, L.	COLL	730	Woodcock, J.	COLL	797
Wilson, I.	CARB	37	Woerpel, K.A.	ORGN	327	Woodcock, J.W.	PMSE	271
Wilson, J.A.	CELL	43	Wojcik, M.	COLL	209	Woodcock, J.W.	PMSE	273
Wilson, J.	AGFD	38	Wojcik, M.	COLL	712	Woodford, J.N.	INOR	742
Wilson, J.	INOR	222	Wojcikowski, M.	CINF	123	Woodland, A.	MEDI	206
Wilson, J.	INOR	521	Wojtas, L.	INOR	247	Woodley, J.	CATL	109
Wilson, J.J.	INOR	60	Wojtecki, R.	POLY	405	Woodring, J.	MEDI	310
Wilson, J.J.	INOR	541	Wolf, D.C.	AGRO	62	Woods, A.	MEDI	445
Wilson, J.J.	NUCL	12	Wolf, J.	AGRO	366	Woods, A.	ENVR	11
Wilson, K.	CINF	142	Wolf, L.K.	MPPG	23	Woods, D.	ENFL	454
Wilson, K.J.	MEDI	259	Wolf, M.	COLL	315	Woods, J.J.	INOR	541
Wilson, L.	AGRO	87	Wolf, M.	ENFL	438	Woods, R.J.	CARB	6
Wilson, L.	COMP	33	Wolf, M.	PHYS	53	Woodside, A.J.	INOR	147
Wilson, M.	BIOL	111	Wolf, S.	GEOC	16	Woodward, S.	ORGN	307
Wilson, M.	MEDI	333	Wolfand, J.	ENVR	431	Woodward, W.	PMSE	332
Wilson, N.	CATL	422	Wolfe, M.	CHAS	5	Woodworth, P.	COLL	507
Wilson, N.	ORGN	496	Wolfe, S.R.	GEOC	18	Wooldridge, L.A.	PHYS	197
Wilson, N.	COMP	98	Wolfe, S.R.	INOR	639	Wooley, K.L.	PMSE	55
Wilson, N.	ENFL	176	Wolfe, S.R.	INOR	703	Wooley, K.L.	PMSE	102
Wilson, O.R.	POLY	343	Wolff, A.	INOR	14	Wooley, K.L.	PMSE	109
Wilson, R.M.	ORGN	441	Wolff, E.P.	PHYS	498	Wooley, K.L.	PMSE	332
Wilson, R.M.	ORGN	578	Wolfman, M.F.	ENFL	402	Wooley, K.L.	PMSE	337
Wilson, R.	AGRO	87	Woll, M.G.	MEDI	286	Wooley, K.L.	PMSE	374
Wilson, R.	ORGN	204	Wolter, B.	PHYS	207	Wooley, K.L.	PMSE	751
Wilson, Z.S.	CHED	97	Wombacher, B.	AGRO	348	Wooley, K.L.	POLY	190
Wilson, Z.S.	PROF	9	Wombacher, R.	PHYS	445	Wooley, K.L.	POLY	267
Wilts, E.	POLY	275	Won, K.	AGFD	105	Wooley, K.L.	POLY	565
Wimalasena, K.	BIOL	83	Wong, A.	ORGN	662	Woolson, D.N.	CARB	48
Winans, R.E.	ENFL	183	Wong, A.	ORGN	667	Woollam, M.D.	ANYL	558
Winchell, M.	AGRO	20	Wong, A.S.	CHED	55	Woranuch, S.	ENVR	837
Winchell, M.	AGRO	76	Wong, A.S.	INOR	294	Worch, J.	PMSE	56
Winchell, M.	AGRO	90	Wong, A.S.	ORGN	77	Worch, J.	PMSE	129
Winchell, M.	AGRO	365	Wong, A.	CATL	501	Worch, J.	PMSE	341
Winchester, L.	CHED	415	Wong, A.B.	CATL	36	Worch, J.	PMSE	419
Winchester, W.R.	CHED	304	Wong, B.M.	COMP	2	Worch, J.	PMSE	420
Windsor, I.W.	MEDI	122	Wong, B.M.	COMP	208	Workie, B.	INOR	727
Windus, T.L.	COMP	549	Wong, B.M.	COMP	472	Workman, R.J.	CHED	362
Winey, K.I.	PMSE	410	Wong, C.	AGRO	176	Wörner, H.	PHYS	12
Winfield, I.	COMP	437	Wong, C.	AGRO	277	Worobo, R.W.	PMSE	802
Winfield, J.	CATL	443	Wong, E.	POLY	88	Worrell, B.T.	PMSE	171
Winfield, L.	PROF	7	Wong, J.	MEDI	108	Wortman-Otto, K.	COLL	281
Winfield, L.	WCC	18	Wong, J.	PMSE	363	Woznack, K.A.	WCC	17
Winick, H.	CHED	126	Wong, J.W.	CATL	106	Wozniak, D.I.	INOR	588
Winkler, D.A.	CINF	90	Wong, J.	PMSE	289	Wozniak, D.I.	INOR	614
Winkler, D.	MEDI	4	Wong, J.	PMSE	615	Wozniak, N.	NUCL	22
Winkler, J.R.	INOR	67	Wong, K.S.	COMP	382	Woznica, A.	BIOL	311
Winneroski, L.L.	MEDI	330	Wong, K.	ENVR	136	Wrasman, C.	CATL	11
Winnik, F.M.	POLY	23	Wong, K.	MEDI	25	Wrasman, C.	CATL	72
Winslow, S.W.	COLL	119	Wong, L.L.	COLL	726	Wrasman, C.	CATL	377
Winstead Casson, C.	COLL	188	Wong, M.	CARB	42	Wrasman, C.J.	CATL	62
Winstead Casson, C.	COLL	225	Wong, M.	PMSE	515	Wrasman, C.J.	COLL	798
Winter, A.	ANYL	501	Wong, M.S.	ENVR	493	Wrenn, T.	CHED	351
Winter, T.	PMSE	549	Wong, M.	COLL	36	Wright, A.	POLY	444
Winter, T.	PMSE	604	Wong, M.	ENFL	34	Wright, A.J.	POLY	558
Winters, J.	COMP	351	Wong, M.	ENVR	835	Wright, B.A.	ORGN	251
Winters, J.	COMP	381	Wong, S.S.	ENFL	238	Wright, B.A.	ORGN	647
Winters, J.	TOXI	59	Wong, S.S.	ENFL	245	Wright, C.	PHYS	81

Wright, D.	CARB	101	Wu, T.	ENFL	494	Wyan, L.	CHED	163
Wright, D.	MEDI	121	Wu, T.	ENVR	17	Wyatt, G.	SCHB	17
Wright, J.	ORGN	558	Wu, T.	ENVR	410	Wyatt, P.	MEDI	206
Wright, M.	MEDI	267	Wu, T.	PMSE	653	Wyatt, P.J.	SCHB	17
Wright, M.	MEDI	353	Wu, T.	PHYS	333	Wyborn, L.	CINF	87
Wright, S.W.	MEDI	319	Wu, T.	ENVR	721	Wycisk, R.J.	ENFL	505
Wright, T.	POLY	16	Wu, V.	POLY	225	Wylie, B.	BIOL	173
Wright, T.	MEDI	128	Wu, V.	POLY	456	Wylie, R.G.	PMSE	811
Wright, T.	MEDI	129	Wu, W.	ORGN	475	Wyman, C.	CELL	13
Wright, Z.	PMSE	77	Wu, W.	ENVR	193	Wynmore, T.	BIOL	280
Wrighton, P.J.	BIOL	277	Wu, W.W.	ANYL	110	Wynne, G.M.	MEDI	289
Wrobel, T.	AGFD	169	Wu, W.W.	ANYL	418	Wynne, J.H.	COLL	336
Wrona, P.	PHYS	273	Wu, W.W.	ENVR	656	Wynne, J.H.	PMSE	73
Wrublewski, D.	CINF	109	Wu, W.	AGFD	54	Wynne, J.H.	PMSE	476
Wu, A.	MEDI	70	Wu, W.	INOR	244	Wynne, J.H.	PMSE	748
Wu, B.	PMSE	349	Wu, W.	INOR	567	Wynne, J.H.	POLY	211
Wu, B.	AGFD	72	Wu, X.	AGFD	193	Wynne, J.H.	POLY	443
Wu, B.	MEDI	172	Wu, X.	CATL	151	Wynne, J.H.	POLY	553
Wu, B.	MEDI	343	Wu, X.	ENVR	758	Wynne, K.J.	POLY	517
Wu, B.	PMSE	436	Wu, X.	COMP	219	Wythes, M.	MEDI	282
Wu, C.	BIOL	114	Wu, X.	MEDI	428	Xavier, R.	BIOL	302
Wu, C.	AGFD	102	Wu, X.	ENFL	345	Xi, Q.	ORGN	45
Wu, C.	ENVR	306	Wu, X.	ORGN	479	Xi, S.	ANYL	67
Wu, C.	ENVR	374	Wu, X.	ENFL	277	Xi, Y.	ENVR	496
Wu, C.	CARB	124	Wu, X.	PHYS	281	Xia, Z.	PMSE	803
Wu, C.	MEDI	230	Wu, X.	MEDI	76	Xia, F.	INOR	200
Wu, C.	COMP	28	Wu, X.	COMP	518	Xia, J.	ENVR	497
Wu, C.	COLL	624	Wu, X.	PMSE	577	Xia, K.	INOR	114
Wu, C.	COLL	788	Wu, X.	PMSE	805	Xia, K.	CHED	194
Wu, D.	BIOL	40	Wu, X.	PMSE	818	Xia, L.	CARB	53
Wu, F.	PMSE	460	Wu, X.	CATL	519	Xia, M.	ENFL	235
Wu, G.	CATL	97	Wu, X.	PMSE	137	Xia, S.	ANYL	498
Wu, G.	CATL	475	Wu, Y.	INOR	76	Xia, S.	AGFD	206
Wu, G.	ENFL	86	Wu, Y.	INOR	55	Xia, X.	PMSE	390
Wu, G.	ENFL	384	Wu, Y.	INOR	672	Xia, X.	ANYL	284
Wu, G.	PMSE	721	Wu, Y.	INOR	330	Xia, X.	ENFL	232
Wu, G.	AGFD	275	Wu, Y.	INOR	417	Xia, X.	ENVR	113
Wu, G.	ENVR	656	Wu, Y.	INOR	719	Xia, X.	COLL	752
Wu, H.	COLL	177	Wu, Y.	INOR	441	Xia, X.	PMSE	143
Wu, H.	ENVR	716	Wu, Y.	COMP	407	Xia, Y.	PMSE	4
Wu, H.	ENFL	75	Wu, Y.	MEDI	370	Xia, Y.	ANYL	209
Wu, H.	POLY	289	Wu, Y.	COLL	106	Xia, Y.	BIOL	100
Wu, H.	POLY	367	Wu, Y.	CATL	265	Xia, Y.	CATL	71
Wu, H.	COLL	314	Wu, Y.	COLL	358	Xia, Y.	CATL	136
Wu, H.	PMSE	691	Wu, Y.	AGFD	164	Xia, Y.	COLL	102
Wu, H.	PMSE	770	Wu, Y.	MEDI	51	Xia, Y.	COLL	449
Wu, H.	ENVR	617	Wu, Y.	POLY	412	Xia, Y.	MPPG	52
Wu, H.	INOR	364	Wu, Y.	ANYL	520	Xia, Y.	PMSE	382
Wu, H.	ENVR	86	Wu, Y.	COLL	529	Xia, Y.	PMSE	653
Wu, J.	AGFD	91	Wu, Y.	COLL	334	Xia, Y.	ENFL	83
Wu, J.	AGFD	107	Wu, Y.	POLY	440	Xia, Y.	BIOL	194
Wu, J.	AGFD	108	Wu, Y.	CATL	33	Xia, Y.	ENVR	366
Wu, J.	AGFD	110	Wu, Y.	PHYS	439	Xia, Z.	COLL	609
Wu, J.	AGFD	112	Wu, Y.	PHYS	393	Xia, Z.	ENVR	11
Wu, J.	AGFD	119	Wu, Y.	I&EC	28	Xia, Z.	ENVR	72
Wu, J.	MPPG	27	Wu, Z.	POLY	26	Xia, Z.	ENVR	373
Wu, J.	TOXI	18	Wu, Z.	ENVR	652	Xia, Z.	PMSE	641
Wu, J.	PHYS	258	Wu, Z.	MEDI	147	Xian, M.	ANYL	497
Wu, J.	CATL	505	Wu, Z.	COLL	733	Xiang, L.	ANYL	383
Wu, J.	PMSE	810	Wu, Z.	CATL	19	Xiang, L.	COLL	712
Wu, J.	ANYL	321	Wu, Z.	CATL	474	Xiang, S.	ENVR	434
Wu, J.	ENVR	674	Wu, Z.	COLL	303	Xiang, W.	COLL	63
Wu, K.	CATL	349	Wu, Z.	ENFL	251	Xiang, X.	ENFL	535
Wu, K.	COLL	242	Wu, Z.	ENFL	252	Xiang, Y.	PHYS	582
Wu, K.	COLL	265	Wu, Z.	ENFL	547	Xiang, Y.	CARB	93
Wu, K.	COLL	289	Wu, Z.	ENVR	556	Xiang, Y.	PMSE	607
Wu, K.	MEDI	230	Wu, Z.	ENVR	606	Xiang, Y.	ENVR	206
Wu, K.	MEDI	44	Wu, Z.	INOR	491	Xiang, Z.	ENFL	385
Wu, K.	MEDI	245	Wu, Z.	ORGN	565	Xiao, Y.	ENVR	611
Wu, L.	PMSE	504	Wu, Z.	ENFL	167	Xiao, A.	CARB	47
Wu, L.	COLL	615	Wu, Z.	ENVR	349	Xiao, F.	ENVR	111
Wu, L.	ENVR	77	Wu, Z.	ENVR	378	Xiao, F.	COLL	497
Wu, M.	POLY	427	Wu, Z.	ENVR	760	Xiao, F.	ENFL	434
Wu, M.	BIOL	278	Wu, Z.	CATL	228	Xiao, H.	AGFD	27
Wu, M.	COLL	631	Wu, Z.	CATL	234	Xiao, H.	AGFD	178
Wu, N.	ENFL	120	Wu, Z.	CATL	280	Xiao, H.	AGFD	193
Wu, N.	ENFL	335	Wu, Z.	CATL	298	Xiao, H.	AGFD	298
Wu, N.	MEDI	440	Wu, Z.	CATL	414	Xiao, H.	MEDI	364
Wu, P.	CATL	452	Wu, Z.	CATL	450	Xiao, J.	ANYL	365
Wu, P.	CARB	18	Wu, Z.	CATL	454	Xiao, L.	ENVR	463
Wu, Q.	COMP	413	Wu, Z.	COMP	231	Xiao, L.	PMSE	1
Wu, Q.	CATL	230	Wu, Z.	I&EC	22	Xiao, Q.	POLY	369
Wu, Q.	CATL	253	Wu, Z.	PMSE	713	Xiao, R.	PMSE	480
Wu, Q.	NUCL	53	Wu, Z.	ENFL	150	Xiao, R.	POLY	89
Wu, R.	ANYL	423	Wuertele, C.	INOR	594	Xiao, W.	CARB	71
Wu, R.	PHYS	208	Wuest, W.M.	BIOL	310	Xiao, X.	ENVR	127
Wu, S.	ENVR	809	Wuest, W.M.	MEDI	136	Xiao, X.	CARB	18
Wu, S.	ENVR	456	Wuhrer, M.	ANYL	422	Xiao, X.	COLL	7
Wu, S.	ENFL	536	Wunder, S.L.	COLL	545	Xiao, Y.	COLL	137
Wu, S.	PMSE	593	Wunderlich, J.	ENVR	385	Xiao, Y.	ORGN	455
Wu, S.	ENVR	586	Wunschel, D.	ANYL	485	Xiaorui, H.	ANYL	118
Wu, S.	MEDI	60	Wusimanjiang, Y.	PHYS	297	Xiaoting, J.	ENVR	687
Wu, S.	MEDI	61	Wustrow, D.J.	MEDI	26	Xie, C.	COMP	22
Wu, T.	CATL	364	Wutke, N.	COLL	145	Xie, G.	BIOL	64

Xie, H.	PMSE	327	Xu, J.	ENFL	356	Xue, B.	COLL	715
Xie, H.	ENVR	238	Xu, J.	PMSE	586	Xue, C.	INOR	315
Xie, H.	ENVR	689	Xu, J.	PMSE	263	Xue, F.	MEDI	351
Xie, J.	PMSE	744	Xu, J.	AGFD	81	Xue, F.	MEDI	355
Xie, J.	INOR	527	Xu, J.	BIOL	57	Xue, J.	PMSE	653
Xie, J.	COLL	541	Xu, J.	CARB	20	Xue, J.	CHED	279
Xie, J.	AGRO	288	Xu, J.	COLL	56	Xue, J.	CHED	280
Xie, J.	AGRO	289	Xu, J.	COLL	392	Xue, J.	MEDI	311
Xie, L.	ENFL	27	Xu, J.	COLL	542	Xue, J.	ENFL	302
Xie, L.	ORGN	596	Xu, J.	INOR	583	Xue, M.	ANYL	83
Xie, M.	MEDI	372	Xu, J.	I&EC	41	Xue, M.	CATL	35
Xie, P.	ORGN	263	Xu, K.	ENFL	90	Xue, M.	CATL	252
Xie, Q.	ANYL	537	Xu, K.	PHYS	17	Xue, M.	PHYS	75
Xie, S.	PHYS	157	Xu, K.	ANYL	215	Xue, R.	MPPG	43
Xie, S.	ORGN	222	Xu, K.	BIOL	130	Xue, R.	COLL	457
Xie, T.	POLY	204	Xu, K.	COLL	209	Xue, T.	PHYS	337
Xie, T.	CATL	6	Xu, K.	COLL	712	Xue, X.	POLY	162
Xie, T.	CATL	385	Xu, K.	INOR	161	Xue, Z.	INOR	360
Xie, W.	POLY	164	Xu, K.	ORGN	537	Xu-Feng, L.	CATL	208
Xie, X.	ENFL	283	Xu, L.	ENVR	674	Yabashi, M.	PHYS	217
Xie, X.	ENFL	127	Xu, L.	COLL	794	Yablou, L.	PHYS	520
Xie, X.	ENVR	825	Xu, L.	CHED	295	Yachandra, V.K.	PHYS	58
Xie, Y.	ENFL	280	Xu, L.L.	ORGN	389	Yacoo, K.E.	CHED	167
Xie, Z.	CATL	230	Xu, M.	CELL	74	Yadav, G.	ENFL	522
Xie, Z.	AGFD	257	Xu, M.	COLL	470	Yadav, H.	AGFD	316
Xie, Z.	AGFD	154	Xu, M.	AGRO	169	Yadav, J.	ANYL	387
Xie, Z.	AGFD	202	Xu, M.	ANYL	73	Yadav, M.	MEDI	126
Xie, Z.	AGFD	203	Xu, M.	ANYL	235	Yadav, M.	MEDI	156
Xin, H.	PMSE	329	Xu, M.	POLY	266	Yadav, R.	MEDI	69
Xin, H.	ENFL	516	Xu, P.	CARB	41	Yadav, S.K.	CELL	44
Xin, H.	ENVR	590	Xu, P.	CATL	435	Yadav, V.	PMSE	250
Xin, H.	CATL	256	Xu, Q.	ORGN	446	Yagci, Y.	POLY	519
Xin, H.	ENFL	197	Xu, Q.	ORGN	449	Yagi, K.	COMP	503
Xin, H.	ENVR	109	Xu, Q.	CATL	40	Yagi, Y.	CARB	100
Xin, Q.	CATL	153	Xu, Q.	ENFL	66	Yahaya, N.P.	ORGN	24
Xin, W.	ENFL	509	Xu, Q.	COLL	257	Yahiro, H.	AGFD	83
Xing, B.	ENVR	393	Xu, R.	INOR	378	Yajima, H.	ORGN	489
Xing, B.	ENVR	426	Xu, S.	ENFL	407	Yakovlev, A.	PHYS	230
Xing, J.	ENVR	631	Xu, S.	POLY	570	Yakovlev, G.	TOXI	81
Xing, K.	PMSE	501	Xu, S.	ANYL	541	Yakovlev, S.	PMSE	135
Xing, L.	MEDI	319	Xu, S.	MEDI	60	Yakovlev, S.	PMSE	689
Xing, L.	COLL	289	Xu, S.	PMSE	638	Yaksic, A.	CHED	269
Xing, Y.	CHED	312	Xu, S.	ENVR	265	Yakushiji, F.	MEDI	349
Xing, Y.	CHED	402	Xu, S.	AGRO	227	Yakushiji, F.	ORGN	156
Xing, Y.	ORGN	640	Xu, T.	PMSE	544	Yalcintas, E.	GEOC	57
Xing, Y.	ORGN	641	Xu, T.	PMSE	552	Yalcintas, E.	NUCL	31
Xing, Y.	MEDI	146	Xu, T.	POLY	225	Yalcintas, E.	NUCL	33
Xing, Y.	ENVR	782	Xu, W.	COMP	566	Yalcintas, E.	NUCL	35
Xingwei, T.	ENFL	11	Xu, W.	AGRO	368	Yalcintas, E.	NUCL	68
Xiong, B.	ENVR	541	Xu, W.	ENFL	308	Yalcintas, E.	NUCL	70
Xiong, B.	CATL	242	Xu, W.	MEDI	113	Yali, X.	ORGN	309
Xiong, H.	AGFD	190	Xu, W.	ANYL	71	Yam, K.	AGFD	246
Xiong, H.	PRES	18	Xu, W.	ANYL	271	Yamada, K.	COLL	273
Xiong, J.	CATL	515	Xu, W.	COLL	612	Yamada, K.	GEOC	17
Xiong, J.	ENVR	236	Xu, W.	MEDI	404	Yamada, K.	PMSE	15
Xiong, L.	AGFD	200	Xu, W.	MEDI	316	Yamaguchi, K.	MEDI	59
Xiong, M.	COLL	540	Xu, W.	PMSE	622	Yamaguchi, S.	INOR	384
Xiong, R.	CELL	63	Xu, W.	ENVR	542	Yamaki, J.	MEDI	203
Xiong, R.	MEDI	294	Xu, W.	ORGN	335	Yamamoto, K.	PMSE	538
Xiong, S.	ENFL	32	Xu, W.	COLL	734	Yamamoto, K.	PMSE	548
Xiong, W.	INOR	56	Xu, X.	ANYL	4	Yamamoto, K.	PMSE	572
Xiong, X.	WCC	8	Xu, X.	ANYL	314	Yamamoto, K.	COLL	275
Xiong, Y.	CATL	139	Xu, X.	CATL	351	Yamamoto, M.	MEDI	72
Xiong, Y.	ENFL	323	Xu, X.	I&EC	59	Yamamoto, N.	COLL	282
Xiqing, L.	ENVR	692	Xu, X.	COLL	434	Yamamoto, N.	COLL	505
Xu, B.	ENVR	580	Xu, X.	COLL	438	Yamamoto, N.	COMP	352
Xu, B.	CARB	59	Xu, X.	COLL	698	Yamamoto, N.	CINF	104
Xu, B.	ENFL	126	Xu, X.	INOR	579	Yamanishi, Y.	PHYS	39
Xu, B.	ENFL	135	Xu, X.	MPPG	70	Yamanouchi, K.	ORGN	564
Xu, C.	ANYL	199	Xu, X.	MEDI	440	Yamasaki, R.	ORGN	574
Xu, C.	NUCL	43	Xu, X.	ANYL	22	Yamasaki, S.	GEOC	54
Xu, C.	ENFL	57	Xu, X.	ANYL	270	Yamasaki, S.	NUCL	41
Xu, C.	ENFL	103	Xu, X.	ENFL	50	Yamashita, A.	AGFD	87
Xu, D.	MEDI	398	Xu, X.	ENVR	9	Yamashita, A.	AGFD	98
Xu, D.	ENFL	495	Xu, X.	MEDI	204	Yamashita, H.	CATL	149
Xu, E.	ORGN	630	Xu, X.	COLL	615	Yamashita, H.	CATL	248
Xu, F.	ENVR	644	Xu, X.	PMSE	577	Yamashita, K.	COMP	196
Xu, F.	ENVR	658	Xu, X.	PMSE	805	Yamashita, M.	ORGN	580
Xu, G.	ENVR	390	Xu, X.	PMSE	818	Yamazaki, S.	MEDI	282
Xu, H.	ENVR	357	Xu, X.	AGFD	81	Yamazaki, S.	ORGN	54
Xu, H.	ANYL	218	Xu, Y.	ENFL	201	Yamazaki, Y.	CARB	22
Xu, H.	ANYL	500	Xu, Y.	ENVR	608	Yamin, Y.	YCC	20
Xu, H.	INOR	552	Xu, Y.	ORGN	511	Yamouni, J.B.	CHED	285
Xu, H.	I&EC	40	Xu, Y.	CATL	191	Yan, B.	INOR	753
Xu, H.	PMSE	181	Xu, Y.	ENFL	35	Yan, B.	ENFL	552
Xu, H.	MPPG	103	Xu, Y.	PMSE	592	Yan, B.	ENVR	59
Xu, H.	MEDI	440	Xu, Y.	ENVR	412	Yan, B.	ENVR	697
Xu, H.	ENFL	322	Xu, Y.	AGFD	57	Yan, B.	CATL	230
Xu, J.	BIOL	124	Xu, Y.	AGRO	335	Yan, C.	INOR	581
Xu, J.	ENVR	587	Xu, Y.	MEDI	74	Yan, C.	ENFL	147
Xu, J.	ENVR	693	Xu, Y.	MEDI	119	Yan, C.	COMP	20
Xu, J.	ENVR	762	Xu, Y.	PMSE	644	Yan, C.	COMP	59
Xu, J.	MEDI	370	Xu, Z.	PMSE	590	Yan, E.C.	ANYL	452
Xu, J.	ENFL	258	Xuan, W.	INOR	107	Yan, F.	POLY	297

Yan, G.	CATL	228	Yang, H.	ENFL	292	Yang, W.	CATL	28
Yan, G.	ENVR	455	Yang, H.	ENFL	295	Yang, W.	COMP	8
Yan, H.	PHYS	449	Yang, H.	ORGN	581	Yang, W.	ENVR	413
Yan, H.	PHYS	490	Yang, H.	ANYL	194	Yang, W.	CARB	56
Yan, H.	MPPG	39	Yang, H.	MEDI	64	Yang, W.	MEDI	405
Yan, H.	PHYS	396	Yang, H.	CELL	4	Yang, W.	MEDI	261
Yan, H.	POLY	514	Yang, J.	INOR	120	Yang, W.	INOR	552
Yan, J.	ENVR	464	Yang, J.	CARB	93	Yang, W.	ORGN	533
Yan, J.	COLL	721	Yang, J.	ENVR	794	Yang, W.	ENVR	410
Yan, J.	AGRO	30	Yang, J.	NUCL	13	Yang, W.	ENFL	356
Yan, L.	PMSE	331	Yang, J.	PRES	26	Yang, W.	ANYL	99
Yan, L.	PMSE	410	Yang, J.	INOR	79	Yang, X.	AGFD	152
Yan, M.	COLL	183	Yang, J.	ANYL	227	Yang, X.	CATL	132
Yan, M.	COLL	605	Yang, J.	ENFL	291	Yang, X.	AGFD	221
Yan, M.	MEDI	172	Yang, J.	COLL	333	Yang, X.	ENFL	128
Yan, M.	ORGN	315	Yang, J.	MEDI	30	Yang, X.	MEDI	172
Yan, Q.	ENFL	499	Yang, J.	MEDI	55	Yang, X.	ORGN	405
Yan, R.	COLL	712	Yang, J.	NUCL	13	Yang, X.	MEDI	319
Yan, S.	ANYL	97	Yang, J.	TOXI	55	Yang, X.	ENFL	521
Yan, S.	ANYL	168	Yang, J.	COLL	603	Yang, X.	COLL	390
Yan, S.	ANYL	177	Yang, J.	PMSE	518	Yang, X.	CATL	116
Yan, S.	ANYL	407	Yang, J.	MEDI	373	Yang, X.	ENVR	4
Yan, S.	COLL	303	Yang, J.	AGFD	54	Yang, X.	MEDI	319
Yan, S.	ENFL	252	Yang, J.	MEDI	366	Yang, X.	ENVR	55
Yan, S.	ENVR	30	Yang, K.	COMP	485	Yang, X.	CATL	42
Yan, S.	I&EC	29	Yang, K.	TOXI	10	Yang, X.	INOR	728
Yan, S.	I&EC	50	Yang, K.	ANYL	178	Yang, X.	ENFL	399
Yan, S.	INOR	491	Yang, K.	ANYL	426	Yang, X.	CELL	34
Yan, S.	MEDI	175	Yang, K.	MPPG	70	Yang, X.	ANYL	112
Yan, T.	INOR	454	Yang, L.	ENFL	94	Yang, X.	ANYL	132
Yan, W.	AGRO	141	Yang, L.	BIOL	170	Yang, X.	CATL	497
Yan, W.	AGRO	278	Yang, L.	ANYL	374	Yang, Y.	CATL	86
Yan, W.	ENVR	621	Yang, L.	ENVR	64	Yang, Y.	ENFL	356
Yan, X.	MEDI	221	Yang, L.	COLL	75	Yang, Y.	AGRO	202
Yan, X.	CATL	69	Yang, L.	INOR	76	Yang, Y.	ORGN	568
Yan, X.	COMP	485	Yang, L.	AGRO	124	Yang, Y.	ANYL	201
Yan, X.	ANYL	228	Yang, L.	AGRO	360	Yang, Y.	ENVR	823
Yan, X.	COLL	120	Yang, L.	ANYL	342	Yang, Y.	INOR	579
Yan, X.	MEDI	21	Yang, L.	BIOL	314	Yang, Y.	ENVR	364
Yan, Y.	ENFL	497	Yang, L.	POLY	90	Yang, Y.	ENVR	761
Yan, Y.	CATL	357	Yang, L.	ENVR	665	Yang, Y.	PMSE	126
Yan, Y.	ENFL	394	Yang, L.	GEOC	70	Yang, Y.	POLY	57
Yan, Y.	ENFL	453	Yang, M.	CATL	191	Yang, Y.	COLL	280
Yan, Y.	ENFL	515	Yang, M.	ENFL	35	Yang, Y.	COLL	324
Yan, Y.	ENVR	658	Yang, M.	GEOC	14	Yang, Y.	ENVR	232
Yan, Z.	ENFL	65	Yang, M.	ENVR	449	Yang, Y.	ENVR	308
Yan, Z.	ENFL	505	Yang, M.	I&EC	54	Yang, Y.	ENVR	393
Yan, Z.	ENFL	264	Yang, M.	PMSE	639	Yang, Y.	ENVR	608
Yan, Z.	COLL	43	Yang, M.	MEDI	76	Yang, Y.	ENVR	699
Yan, Z.	MEDI	65	Yang, M.	MEDI	409	Yang, Y.	ENFL	143
Yanaandra, M.	CATL	22	Yang, M.	MEDI	411	Yang, Y.	ENFL	527
Yancey, D.F.	ENFL	317	Yang, M.	PHYS	471	Yang, Y.	COLL	660
Yandrasits, M.A.	PMSE	731	Yang, N.	COLL	316	Yang, Y.	ENFL	460
Yang, W.	COMP	416	Yang, N.	COLL	522	Yang, Y.	ORGN	604
Yang, Y.	CATL	283	Yang, P.	CATL	21	Yang, Y.	BIOL	31
Yang, A.	CATL	62	Yang, P.	COLL	355	Yang, Y.	ENFL	34
Yang, A.	CATL	377	Yang, P.	ENFL	558	Yang, Y.	PMSE	439
Yang, B.	CATL	452	Yang, P.	NUCL	81	Yang, Y.	BIOL	192
Yang, C.	CATL	405	Yang, P.	PHYS	326	Yang, Z.	ENVR	455
Yang, C.	COMP	206	Yang, P.	AGFD	232	Yang, Z.	PMSE	722
Yang, C.	CATL	346	Yang, Q.	AGRO	335	Yang, Z.	PHYS	337
Yang, C.	ENFL	58	Yang, Q.	AGRO	94	Yang, Z.	ANYL	559
Yang, C.	ENFL	523	Yang, Q.	AGRO	134	Yang, Z.	ENVR	412
Yang, C.	ANYL	300	Yang, Q.	COLL	434	Yang, Z.	ENVR	705
Yang, C.	ANYL	334	Yang, Q.	COLL	438	Yang, Z.	MEDI	330
Yang, C.	INOR	267	Yang, Q.	COLL	698	Yang, Z.	BIOL	179
Yang, C.	CATL	12	Yang, Q.	INOR	579	Yang, Z.	COMP	349
Yang, C.	CATL	271	Yang, Q.	COLL	647	Yang, Z.	COMP	513
Yang, C.	AGFD	153	Yang, R.T.	ENVR	782	Yang, Z.	AGRO	117
Yang, C.	AGFD	177	Yang, R.	AGFD	267	Yang, Z.	AGRO	232
Yang, C.	AGFD	68	Yang, S.	ANYL	35	Yang, Z.	AGRO	297
Yang, D.	COMP	489	Yang, S.	ENVR	114	Yang, Z.	PMSE	807
Yang, D.	COLL	41	Yang, S.	CATL	234	Yang, Z.	AGFD	223
Yang, D.	POLY	103	Yang, S.	ENFL	83	Yannicari, M.	AGRO	334
Yang, F.	COLL	525	Yang, S.	PMSE	721	Yano, J.	CATL	98
Yang, F.	ENFL	512	Yang, S.	ANYL	110	Yano, J.	PHYS	58
Yang, F.	PMSE	332	Yang, S.	ANYL	416	Yao, C.	AGRO	172
Yang, G.	CHAL	18	Yang, S.	ANYL	418	Yao, C.	ORGN	83
Yang, G.	INOR	166	Yang, S.	CARB	58	Yao, C.	ORGN	464
Yang, G.	INOR	174	Yang, S.	PMSE	484	Yao, D.	CATL	379
Yang, G.	PMSE	113	Yang, S.	COLL	794	Yao, G.	ENFL	133
Yang, G.	POLY	542	Yang, S.	MPPG	16	Yao, G.	ENFL	136
Yang, G.	MEDI	405	Yang, S.	MEDI	302	Yao, G.	ENFL	336
Yang, G.	COLL	765	Yang, S.	COMP	183	Yao, H.	ENVR	18
Yang, G.	AGFD	204	Yang, S.	PHYS	526	Yao, H.	COLL	660
Yang, H.	ANYL	44	Yang, S.	AGFD	65	Yao, J.	ENVR	103
Yang, H.	ORGN	74	Yang, S.	ORGN	505	Yao, K.P.	ENFL	406
Yang, H.	ENVR	637	Yang, T.	PMSE	620	Yao, K.	ENVR	403
Yang, H.	INOR	135	Yang, T.	INOR	45	Yao, L.	TOXI	11
Yang, H.	ANYL	487	Yang, T.	MEDI	396	Yao, M.	AGFD	203
Yang, H.	CATL	503	Yang, T.	ORGN	334	Yao, Q.	AGRO	117
Yang, H.	COLL	85	Yang, T.	ORGN	467	Yao, Q.	AGRO	232
Yang, H.	COLL	107	Yang, W.	COMP	144	Yao, Q.	ENFL	302
Yang, H.	ENFL	439	Yang, W.	MEDI	355	Yao, S.	CATL	230

Yao, T.	MEDI	70	Yehezkeili, O.	CATL	388	Yokoyama, H.	PMSE	154
Yao, W.	ORGN	516	Yekefallah, M.	BIOL	173	Yokoyama, H.	PMSE	155
Yao, X.	COMP	269	Yelleswarapu, C.	COLL	565	Yokoyama, H.	PMSE	443
Yao, X.	COMP	546	Yelvington, P.	ENVR	179	Yokoyama, H.	ORGN	47
Yao, Y.	ENFL	44	Yelvington, P.	ENVR	304	Yokoyama, K.	COLL	179
Yao, Y.	PHYS	185	Yen, G.	ENFL	534	Yokoyama, K.	COLL	439
Yao, Y.	BIOL	309	Yen, J.	PROF	1	Yokoyama, K.	COLL	531
Yao, Y.	ORGN	399	Yen, L.	ENVR	614	Yokoyama, K.	COLL	667
Yao, Y.	POLY	513	Yen, S.	ENVR	812	Yokoyama, W.H.	AGFD	301
Yao, Z.	ENFL	85	Yen, S.	MEDI	366	Yokus, M.	ANYL	328
Yao, Z.	ENFL	459	Yengantiwar, A.	ANYL	343	Yom, T.	CHED	283
Yao, Z.	BIOL	292	Yennello, S.J.	PROF	2	Yoneda, T.	ENVR	247
Yap, K.M.	ENFL	18	Yennello, S.J.	WCC	30	Yonezawa, T.	COLL	443
Yapa Abeywardana, M.	ANYL	250	Yeo, J.	AGFD	23	Yonezawa, Y.	COMP	319
Yapararatne, S.B.	ENVR	483	Yeom, B.	COLL	165	Yong, H.	PHYS	9
Yapp, D.T.	COLL	692	Yeom, B.	COLL	221	Yong, H.	PHYS	11
Yar, M.	PMSE	582	Yeom, B.	COLL	306	Yong, H.	PHYS	336
Yarbrough, R.	PMSE	532	Yeom, J.	COLL	678	Yong, H.	PMSE	366
Yarema, M.	COLL	519	Yeom, J.	ENVR	411	Yong, X.	PMSE	254
Yarema, O.	COLL	519	Yeon, J.	ENFL	531	Yong, X.	PMSE	256
Yargeau, V.	ENVR	513	Yeon, S.	INOR	468	Yonkunas, M.	MEDI	404
Yarmey, L.	CINF	87	Yesilbag Tonga, G.	COLL	193	Yoo, C.	PHYS	552
Yarusso, D.	POLY	595	Yesilbag Tonga, G.	COLL	208	Yoo, C.	COLL	420
Yaseen, W.	INOR	102	Yett, A.	CHED	264	Yoo, H.	COLL	118
Yaseneva, P.	CATL	251	Yeu, S.	MEDI	73	Yoo, J.	COMP	181
Yashima, E.	POLY	598	Yeung, E.	ENVR	203	Yoo, M.	CATL	459
Yashin, V.V.	PMSE	248	Yeung, K.	ENFL	253	Yoo, M.	MEDI	152
Yasri, N.	COLL	418	Yeung, K.	ENVR	442	Yoo, S.	BIOL	293
Yassin, N.	INOR	279	Yeung, K.	ENVR	553	Yoo, S.	COLL	603
Yasuda-Torii, M.	AGFD	90	Yeung, K.	ENVR	562	Yoo, W.	ENFL	230
Yasui, H.	CARB	100	Yeung, K.	ENVR	648	Yoo, W.	ENFL	231
Yasui, K.	ORGN	466	Yeung, W.	BIOL	296	Yoo, Y.	PMSE	489
Yasukawa, N.	ORGN	47	Yewdall, N.	POLY	489	Yoojin, J.	COMSC	8
Yasuo, N.	COMP	424	Yi, D.	ORGN	465	Yoon, B.	ENVR	56
Yates, B.	CHED	142	Yi, D.	ORGN	467	Yoon, B.	POLY	605
Yates, J.R.	CARB	73	Yi, J.	PMSE	479	Yoon, D.Y.	POLY	591
Yatsenko, K.	COMP	148	Yi, N.	CELL	21	Yoon, H.	ENVR	41
Yatsunyk, L.A.	CHED	50	Yi, P.	ENVR	22	Yoon, J.H.	BIOL	225
Yatsunyk, L.A.	CHED	171	Yi, X.	ENVR	222	Yoon, J.	ENVR	39
Yatsunyk, L.A.	CHED	172	Yigit, M.V.	ANYL	283	Yoon, J.	ENVR	41
Yatsunyk, L.A.	CHED	204	Yi-Hung, L.	ANYL	102	Yoon, J.	ENVR	792
Yatsunyk, L.A.	CHED	264	Yik, J.	COLL	647	Yoon, J.	BIOL	212
Yatsunyk, L.A.	INOR	568	Yilan, O.	ANYL	121	Yoon, K.	POLY	613
Yau, N.	CELL	26	Yildirim, E.	MPPG	16	Yoon, K.	COLL	228
Yavuz, I.	COMP	534	Yildirim, E.	POLY	141	Yoon, S.	ENVR	500
Yazaki, R.	ORGN	239	Yildirim, H.	PHYS	529	Yoon, S.J.	COMP	199
Yazarians, J.	ORGN	382	Yildiz, B.	CATL	217	Yoon, S.	ENVR	637
Yazarians, J.A.	ORGN	384	Yilgor, E.	PMSE	277	Yoon, S.	INOR	135
Yazdani, M.	COLL	695	Yilgor, E.	PMSE	386	Yoon, S.	PMSE	539
Yazdani, M.	COMP	465	Yilgor, E.	POLY	141	Yoon, S.H.	ENFL	534
Yazdani, M.	PMSE	526	Yilgor, I.	PMSE	277	Yoon, T.P.	ORGN	25
Yazdani, M.	POLY	379	Yilgor, I.	PMSE	386	Yoon, T.P.	ORGN	29
Yazdani, N.	COLL	519	Yilgor, I.	POLY	141	Yoon, T.P.	ORGN	93
Yazdanparast, M.	COLL	683	Yilmaz, A.	INOR	134	Yoon, T.P.	ORGN	259
Yazgan, I.	CARB	110	Yilmaz, E.S.	ORGN	583	Yoon, Y.	POLY	469
Yazici, N.	INOR	134	Yilmaz, T.	POLY	208	Yoon, Y.	ENFL	513
Ye, G.	COLL	17	Yilmaz, T.	AGFD	159	Yoon, Y.	MEDI	229
Ye, G.	ENVR	548	Yim, D.	COLL	603	York, A.	CATL	361
Ye, G.	POLY	43	Yin, B.	COLL	657	York, A.	CATL	114
Ye, G.	POLY	570	Yin, B.	INOR	419	York, B.	ENVR	663
Ye, H.	COMP	355	Yin, D.	ORGN	45	York, E.	CHED	314
Ye, H.	COMP	553	Yin, H.	INOR	426	York, W.L.	INOR	140
Ye, H.	PHYS	416	Yin, H.	CATL	75	Yoshiba, T.	MEDI	72
Ye, H.	COLL	342	Yin, H.	COLL	765	Yoshida, D.	CATL	79
Ye, J.	COMP	403	Yin, H.	PMSE	586	Yoshida, H.	CATL	23
Ye, J.	PHYS	192	Yin, J.	AGFD	104	Yoshida, R.	POLY	375
Ye, L.	ENVR	690	Yin, J.	ANYL	507	Yoshida, S.	MEDI	73
Ye, P.	INOR	76	Yin, J.	PHYS	458	Yoshida, W.	ANYL	204
Ye, Q.	MEDI	21	Yin, L.	ENFL	150	Yoshida, Y.	MEDI	72
Ye, X.	ANYL	104	Yin, L.	ENVR	782	Yoshii, T.	ANYL	25
Ye, X.	COLL	516	Yin, P.L.	ANYL	336	Yoshii, T.	BIOL	48
Ye, X.	AGFD	148	Yin, P.L.	COLL	699	Yoshikawa, N.	COMP	305
Ye, Y.	AGRO	141	Yin, P.L.	MPPG	74	Yoshikawa, S.	COMP	424
Ye, Y.	AGRO	278	Yin, S.	ENVR	8	Yoshimura, A.	MPPG	44
Ye, Z.	CATL	348	Yin, X.	PMSE	564	Yoshinaga, K.	ENVR	549
Ye, Z.	PMSE	563	Yin, Z.	PMSE	789	Yoshinaga, M.	TOXI	27
Ye, Z.	GEOC	15	Yingxin, H.	ENFL	412	Yoshinaga, N.	PMSE	757
Yea, D.	COLL	304	Yip, B.	MEDI	282	Yoshino, H.	MEDI	73
Yeager, C.	NUCL	43	Yip, P.	CATL	518	Yoshino, R.	COMP	424
Yeahia, R.	COLL	348	Yip, P.	COLL	241	Yoshizawa, A.	COLL	587
Yearty, K.L.	CHED	393	Yishun, H.	PMSE	469	You, J.	ENVR	328
Yee, A.F.	PMSE	156	Yocum, K.	PHYS	81	You, M.	ANYL	378
Yee, A.F.	POLY	104	Yocum, K.	PHYS	591	You, M.	ANYL	423
Yee, N.	MEDI	44	Yoder, G.L.	I&EC	8	You, W.	PMSE	38
Yee, N.	MEDI	245	Yoder, N.C.	MEDI	363	You, W.	PMSE	331
Yee, T.D.	COLL	726	Yoganathan, S.	MEDI	109	You, W.	PMSE	659
Yeh, C.	ENVR	592	Yoho, M.D.	NUCL	65	You, Y.	ANYL	325
Yeh, H.	BIOL	171	Yoho, M.D.	NUCL	66	Youan, B.	PHYS	452
Yeh, S.	PHYS	46	Yokley, T.	INOR	592	You-Dow, X.	ANYL	504
Yeh, S.	PHYS	562	Yokoo, R.	ORGN	572	Youmans, M.	CHED	243
Yeh, T.	COLL	738	Yokota, A.	MEDI	314	Youmans, M.	CHED	256
Yeh, Y.	COLL	250	Yokota, A.	PMSE	567	Younai, A.	MEDI	26
Yeh, Y.	INOR	45	Yokota, H.	ANYL	558	Younesi, R.	PHYS	62
Yeh, Y.	COMP	336	Yokoyama, A.	ORGN	404	Young, A.P.	CHED	27

Young, A.P.	INOR	120	Yu, L.	PHYS	454	Yuen, L.	MEDI	13
Young, A.P.	INOR	302	Yu, M.	ENVR	797	Yuen Zhou, J.	PHYS	128
Young, A.P.	BIOL	289	Yu, M.	COLL	56	Yuen Zhou, J.	PHYS	276
Young, A.T.	ANYL	328	Yu, M.	COLL	392	Yuen Zhou, J.	PHYS	316
Young, A.T.	POLY	65	Yu, M.	COLL	542	Yuen-Zhou, J.	PHYS	275
Young, B.	ANYL	522	Yu, M.	INOR	583	Yuen-Zhou, J.	PHYS	277
Young, C.	ENVR	260	Yu, M.	PMSE	798	Yuh, C.	I&EC	7
Young, E.R.	PHYS	155	Yu, P.	CELL	23	Yun, B.	TOXI	91
Young, L.	POLY	37	Yu, P.	ENVR	146	Yun, D.	PMSE	798
Young, L.	ORGN	399	Yu, Q.	PMSE	723	Yun, H.	COLL	217
Young, M.	CATL	500	Yu, Q.	ANYL	423	Yun, H.	COLL	674
Young, M.S.	AGRO	255	Yu, Q.	ENFL	508	Yun, H.	COLL	758
Young, M.S.	AGRO	347	Yu, S.	POLY	469	Yun, K.	COLL	130
Young, M.S.	AGRO	349	Yu, S.	PMSE	803	Yun, Q.	COLL	739
Young, M.S.	ANYL	310	Yu, S.	ENVR	622	Yun, S.	ENVR	750
Young, M.	POLY	373	Yu, T.	BIOL	109	Yung, M.	CATL	221
Young, R.	MEDI	7	Yu, W.	COLL	352	Yunker, L.	COMP	302
Young, S.C.	CHED	268	Yu, W.	COMP	579	Yuntawattana, N.	PMSE	60
Young, S.C.	ORGN	295	Yu, W.	MEDI	351	Yurchenko, S.	PHYS	310
Young, T.D.	COLL	567	Yu, W.	MEDI	24	Yurtsever, M.	POLY	141
Young, W.	POLY	14	Yu, W.	MEDI	345	Yurum, A.	ENFL	409
Youngblood, J.P.	CELL	17	Yu, X.	CATL	95	Yushin, G.	MPPG	8
Youngblood, J.P.	CELL	58	Yu, X.	CHED	140	Yust, B.	INOR	524
Youngblood, J.P.	CELL	61	Yu, X.	CHED	259	Yuwen, J.	INOR	378
Youngblood, J.P.	CELL	68	Yu, X.	CHED	279	Yuwono, V.	COLL	86
Youngblood, J.P.	PMSE	322	Yu, X.	CHED	280	Yuwono, V.	GEOC	41
Youngblood, J.P.	PMSE	681	Yu, X.	COLL	730	Yuxiang, W.	PHYS	374
Youngblood, J.P.	POLY	466	Yu, X.	PMSE	638	Zabel, B.A.	MEDI	92
Youngs, T.G.	CATL	119	Yu, X.	ENVR	326	Zabetakis, D.	ANYL	224
Youngs, T.G.	PHYS	554	Yu, X.	BIOL	88	Zabielaitė, A.	ENFL	219
Younis, A.	COMP	313	Yu, X.	COLL	218	Zabotina, O.	ANYL	357
Yousaf, A.	COLL	602	Yu, X.	ENFL	521	Zabula, A.	INOR	426
Yousefi, N.	ENVR	136	Yu, X.	MEDI	282	Zachariah, M.R.	COLL	280
Youtsey, S.	CHED	230	Yu, X.	ANYL	438	Zachariah, M.R.	COLL	324
Yserentant, K.	PHYS	445	Yu, Y.	ANYL	319	Zacharias, M.	COMP	17
Yu, A.	COMP	23	Yu, Y.	MPPG	11	Zachariou, A.	CATL	112
Yu, B.	CHED	59	Yu, Y.	PHYS	19	Zadlo-Dobrowolska, A.	CATL	159
Yu, B.	CARB	43	Yu, Y.	ENFL	186	Zádor, J.	PHYS	575
Yu, C.	MEDI	52	Yu, Y.	PHYS	60	Zadoyan, R.	ANYL	361
Yu, C.	GEOC	65	Yu, Y.	PMSE	670	Zaera, F.	CATL	408
Yu, C.	MPPG	27	Yu, Y.	CATL	21	Zaera, F.	CATL	462
Yu, C.	INOR	96	Yu, Y.	ENFL	402	Zager, D.	CATL	259
Yu, C.	INOR	446	Yu, Y.	BIOL	51	Zaghib, K.	ENFL	349
Yu, C.	ORGN	610	Yu, Z.	ANYL	173	Zaghloul, M.	ANYL	47
Yu, C.	TOXI	29	Yu, Z.	MEDI	281	Zagnoni, M.	ENVR	392
Yu, D.	COLL	66	Yu, Z.	ENFL	478	Zagorodnya, S.	MEDI	402
Yu, F.	COLL	616	Yu, Z.	ENVR	550	Zaheer, M.	CATL	424
Yu, F.	CARB	33	Yu, Z.	ENVR	375	Zahoranszky-Kohalmi, G.	COMP	530
Yu, F.	CARB	119	Yuan, H.	PMSE	468	Zahos-Siagos, I.	ENFL	420
Yu, F.	ORGN	172	Yuan, B.	AGFD	115	Zahran, E.	CHED	284
Yu, F.	ORGN	252	Yuan, C.	ENVR	604	Zaia, J.	ANYL	415
Yu, G.	ENFL	252	Yuan, D.	PMSE	226	Zaia, J.	ENFL	488
Yu, G.	ENVR	46	Yuan, D.	ENVR	684	Zaiku, X.	ENFL	313
Yu, G.	ENVR	497	Yuan, F.	COLL	616	Zak, K.	BIOL	146
Yu, G.	INOR	491	Yuan, F.	ENVR	122	Zakaria, K.	ENVR	416
Yu, G.	COLL	562	Yuan, H.	COLL	130	Zakarian, A.S.	ORGN	645
Yu, G.	ENFL	199	Yuan, H.	MPPG	69	Zakeeruddin, S.	ENFL	542
Yu, G.	MPPG	13	Yuan, J.	PHYS	53	Zakharchenko, A.	COLL	471
Yu, H.	CARB	47	Yuan, J.	CATL	446	Zakharov, A.	COMP	530
Yu, H.	MEDI	243	Yuan, J.	PMSE	600	Zakharov, R.	CINF	69
Yu, H.	COMP	185	Yuan, J.	POLY	248	Zaki, S.T.	COLL	413
Yu, H.	COLL	71	Yuan, J.	POLY	301	Zaklin, R.D.	CHAS	50
Yu, H.	COLL	651	Yuan, J.	TOXI	49	Zakmout, A.	ENVR	646
Yu, H.	PMSE	390	Yuan, K.	MEDI	150	Zaldivar, R.	POLY	610
Yu, H.	COMP	243	Yuan, K.	ENVR	129	Zaldivar, R.	POLY	611
Yu, H.	CATL	75	Yuan, K.	GEOC	27	Zallesskiy, S.	COMSCI	4
Yu, H.	MEDI	342	Yuan, K.	GEOC	52	Zaliznyak, T.	ENFL	238
Yu, H.	ENVR	194	Yuan, L.	PHYS	425	Zalles, L.	GEOC	33
Yu, H.	PHYS	382	Yuan, L.	AGRO	226	Zaltsman, Y.	BIOL	244
Yu, H.	POLY	344	Yuan, L.	CATL	42	Zaltsman, Y.	BIOL	277
Yu, H.	POLY	357	Yuan, S.	PMSE	332	Zaman, M.H.	BIOL	46
Yu, J.	COLL	234	Yuan, T.	CINF	72	Zamani, M.	ANYL	122
Yu, J.	AGFD	226	Yuan, T.	I&EC	30	Zamani, M.	COLL	524
Yu, J.	INOR	553	Yuan, Y.	AGRO	16	Zamanova, S.	MEDI	188
Yu, J.C.	INOR	199	Yuan, Z.	PMSE	648	Zambare, N.	GEOC	69
Yu, J.	ANYL	313	Yuan, Z.	ORGN	207	Zammit, P.	POLY	486
Yu, J.	ENVR	441	Yücel, E.	ORGN	196	Zamora, I.	AGRO	352
Yu, J.	ENVR	466	Yudasaka, M.	ORGN	404	Zamurđ, A.	CHED	252
Yu, J.	ORGN	123	Yudin, A.K.	MEDI	1	Zan, Y.	ENFL	192
Yu, J.	ORGN	498	Yue, C.	ENFL	53	Zander, N.E.	POLY	442
Yu, K.	ENVR	715	Yue, K.	BIOL	99	Zander, Z.	PHYS	385
Yu, K.	COLL	219	Yue, L.	PHYS	207	Zang, L.	AGRO	202
Yu, K.	COMP	84	Yue, P.	ENVR	619	Zanni, M.T.	PHYS	100
Yu, K.	CARB	79	Yue, P.	GEOC	44	Zanni, M.T.	PHYS	144
Yu, L.	PMSE	462	Yue, S.	ENFL	238	Zanta, C.L.	ENVR	578
Yu, L.L.	AGFD	16	Yue, S.	ENFL	330	Zapfen, J.G.	POLY	345
Yu, L.L.	AGFD	146	Yue, S.	INOR	50	Zaqout, M.	ENVR	651
Yu, L.L.	AGFD	232	Yue, S.	INOR	489	Zárate-Triviño, D.	COLL	311
Yu, L.L.	AGFD	313	Yue, Y.	AGFD	57	Zarb, A.	ENVR	682
Yu, L.L.	AGFD	314	Yue, Y.	AGFD	331	Zare, R.N.	CATL	439
Yu, L.	AGRO	312	Yue, Z.	INOR	498	Zare, R.N.	INOR	311
Yu, L.	AGFD	146	Yuede, N.E.	ENFL	268	Zare, R.N.	PHYS	311
Yu, L.	AGFD	314	Yueh, H.	ORGN	398	Zarei Baygi, A.	ENVR	78
Yu, L.	ENFL	331	Yuen, J.D.	ANYL	224	Zarganis, T.	BIOL	146

Zargarzadeh, L.	ENVR	769	Zhan, C.	PMSE	448	Zhang, H.	COLL	103
Zaric, S.D.	COMP	473	Zhan, J.	ENVR	269	Zhang, H.	COLL	227
Zarkovic Grove, T.	ANYL	226	Zhan, S.	ENVR	698	Zhang, H.	COLL	288
Zarras, P.	POLY	256	Zhan, W.	COLL	719	Zhang, H.	COLL	316
Zarro, G.	CHED	147	Zhan, X.	COLL	409	Zhang, H.	COLL	662
Zarschler, K.	INOR	416	Zhan, X.	ENFL	469	Zhang, H.	COLL	739
Zart, M.	CHED	250	Zhang, C.	ENVR	479	Zhang, H.	ENVR	40
Zarzar, L.D.	COLL	73	Zhang, D.	ENFL	14	Zhang, H.	MPPG	24
Zaslavsky, L.	CINF	134	Zhang, D.	ENFL	26	Zhang, H.	MPPG	31
Zauscher, S.	COLL	706	Zhang, J.	POLY	148	Zhang, H.	MPPG	32
Zauscher, S.	ENFL	500	Zhang, Q.	CARB	36	Zhang, H.	AGFD	173
Zauscher, S.	INOR	385	Zhang, Y.	COLL	151	Zhang, H.	ENVR	589
Zavada, S.R.	POLY	51	Zhang, A.	PMSE	752	Zhang, H.	ENVR	833
Zavada, S.R.	PMSE	773	Zhang, A.	POLY	392	Zhang, H.	AGFD	38
Zavadil, K.R.	ENFL	204	Zhang, A.	ENVR	564	Zhang, H.	COLL	793
Zavadil, K.R.	ENFL	205	Zhang, A.	MEDI	338	Zhang, H.	AGFD	313
Zavadil, K.R.	ENFL	471	Zhang, B.	ENVR	706	Zhang, H.	CATL	398
Zavala, A.	COMP	569	Zhang, B.A.	ENFL	250	Zhang, H.	CATL	279
Zavala, O.	POLY	345	Zhang, B.	COMP	186	Zhang, J.	MEDI	281
Zavalij, P.Y.	INOR	344	Zhang, B.	COMP	211	Zhang, J.	MPPG	112
Zavalij, P.Y.	INOR	598	Zhang, B.	CATL	155	Zhang, J.	COLL	371
Zavarin, M.	NUCL	48	Zhang, B.	PHYS	413	Zhang, J.	CHAS	37
Zavarin, M.	NUCL	76	Zhang, B.	PMSE	25	Zhang, J.	CINF	79
Zavarin, M.	BIOL	94	Zhang, B.	PMSE	215	Zhang, J.	ENFL	461
Zavorotinskaya, T.	MEDI	21	Zhang, B.	POLY	158	Zhang, J.	CATL	410
Zayas-Viera, M.	POLY	359	Zhang, C.	ENVR	454	Zhang, J.	CHED	54
Zayka, P.	CHED	348	Zhang, C.	INOR	423	Zhang, J.	CHED	94
Zayka, P.	COLL	295	Zhang, C.	MEDI	52	Zhang, J.	ENFL	469
Zaykov, A.	PHYS	328	Zhang, C.	AGRO	117	Zhang, J.	MPPG	65
Zdepski, K.	CINF	43	Zhang, C.	CATL	304	Zhang, J.Z.	ENFL	334
Zdilla, M.	COLL	499	Zhang, C.	CATL	305	Zhang, J.	PMSE	479
Zdrasil, B.	CINF	51	Zhang, C.	CATL	306	Zhang, J.	ENVR	225
Zdrasil, B.	TOXI	61	Zhang, C.	CATL	307	Zhang, J.	ENFL	532
Zdrasil, B.	TOXI	105	Zhang, C.	CATL	308	Zhang, J.	PMSE	112
Zea, H.	ENVR	478	Zhang, C.	CATL	309	Zhang, J.	AGFD	160
Zecca, H.	MEDI	144	Zhang, C.	PMSE	114	Zhang, J.	ANYL	515
Zegke, M.	INOR	563	Zhang, C.	ENVR	3	Zhang, J.	ENFL	455
Zegke, M.	INOR	565	Zhang, C.	TOXI	98	Zhang, J.	BIOL	88
Zegke, M.	INOR	640	Zhang, C.	PMSE	450	Zhang, J.	AGFD	68
Zeh, S.	ENVR	196	Zhang, C.	PMSE	575	Zhang, J.	PHYS	95
Zehnder, L.	MEDI	282	Zhang, C.	CHED	70	Zhang, J.	ENVR	246
Zeiningner, L.	COLL	64	Zhang, C.	AGFD	118	Zhang, J.	POLY	310
Zeiningner, L.	ORGN	428	Zhang, C.	ENFL	109	Zhang, K.	ENVR	832
Zejun, Z.	AGRO	284	Zhang, C.	ENVR	42	Zhang, K.	PMSE	206
Zeller, M.	INOR	447	Zhang, C.	ENVR	184	Zhang, K.	POLY	198
Zeman, C.J.	PHYS	428	Zhang, C.	AGRO	133	Zhang, K.	ENFL	303
Zemba, V.	ENVR	834	Zhang, C.	ENFL	240	Zhang, K.	ENFL	446
Zemlyanov, D.	CATL	180	Zhang, C.	ENFL	241	Zhang, K.	ENFL	365
Zemlyanov, D.	CATL	229	Zhang, C.	ENFL	242	Zhang, K.	PMSE	147
Zemlyanov, D.	CATL	389	Zhang, C.	PMSE	592	Zhang, K.	POLY	264
Zemlyanov, D.	INOR	76	Zhang, C.	ENFL	302	Zhang, K.	ANYL	35
Zeng, L.	ENVR	298	Zhang, D.	ANYL	17	Zhang, K.	POLY	226
Zeng, C.	CATL	519	Zhang, D.	ANYL	37	Zhang, K.	PMSE	37
Zeng, C.	INOR	330	Zhang, D.	ANYL	451	Zhang, K.	ENVR	93
Zeng, H.	COLL	361	Zhang, D.	AGFD	332	Zhang, L.	PMSE	393
Zeng, J.	COLL	271	Zhang, D.	PMSE	292	Zhang, L.	COLL	676
Zeng, J.	PMSE	687	Zhang, D.	PMSE	616	Zhang, L.	INOR	379
Zeng, J.	POLY	89	Zhang, D.	MEDI	15	Zhang, L.	POLY	570
Zeng, J.	POLY	183	Zhang, D.	PMSE	438	Zhang, L.	MEDI	76
Zeng, J.	CARB	18	Zhang, D.Y.	INOR	765	Zhang, L.	POLY	378
Zeng, J.	CATL	294	Zhang, F.	AGFD	339	Zhang, L.	AGFD	199
Zeng, J.	ENVR	795	Zhang, F.	CATL	65	Zhang, L.	AGFD	221
Zeng, Q.	ENVR	569	Zhang, F.	PMSE	211	Zhang, L.	CATL	325
Zeng, S.	ENVR	530	Zhang, F.	ANYL	121	Zhang, L.	PHYS	59
Zeng, S.	PMSE	292	Zhang, F.	INOR	652	Zhang, L.	COLL	47
Zeng, S.	PMSE	616	Zhang, G.	ENFL	128	Zhang, L.	COLL	133
Zeng, T.	ENVR	575	Zhang, G.	AGRO	293	Zhang, L.	COLL	722
Zeng, T.	PHYS	13	Zhang, G.	ANYL	559	Zhang, L.	ORGN	263
Zeng, X.C.	COLL	734	Zhang, G.	ENVR	829	Zhang, L.	CATL	490
Zeng, X.	AGFD	182	Zhang, G.	ENVR	582	Zhang, L.	ENVR	221
Zeng, Y.	ENFL	349	Zhang, G.	AGFD	58	Zhang, L.	PMSE	347
Zeng, Y.	ENVR	605	Zhang, G.	AGFD	193	Zhang, L.	AGFD	68
Zeng, Y.	COLL	799	Zhang, G.	AGFD	293	Zhang, L.	ENFL	103
Zeng, Y.	COLL	794	Zhang, G.	COMP	465	Zhang, L.	AGFD	279
Zeng, Z.	INOR	474	Zhang, G.	POLY	106	Zhang, L.	BIOL	250
Zengotita, F.	NUCL	46	Zhang, G.	AGFD	72	Zhang, L.	MEDI	151
Zengotita, F.	NUCL	71	Zhang, H.	MEDI	281	Zhang, L.	MEDI	319
Zenn, R.	ENFL	152	Zhang, H.	ORGN	149	Zhang, L.	COLL	705
Zenova, A.	MEDI	359	Zhang, H.	ENVR	234	Zhang, L.	COLL	427
Zentner, C.A.	COLL	210	Zhang, H.	ENVR	575	Zhang, L.	ENFL	408
Zephyr, J.	MEDI	177	Zhang, H.	ENVR	668	Zhang, L.	PMSE	112
Zepp, R.G.	ENVR	91	Zhang, H.	MEDI	265	Zhang, L.	POLY	545
Zeqiong, X.	ENVR	692	Zhang, H.	COMP	469	Zhang, L.	COLL	353
Zequine, C.	ENFL	240	Zhang, H.	ANYL	386	Zhang, M.	MEDI	281
Zerhouni, Y.	ENVR	757	Zhang, H.	COLL	346	Zhang, M.	ENVR	814
Zerin, F.	COLL	308	Zhang, H.	PMSE	774	Zhang, M.	COLL	101
Zerpa, L.	ENFL	375	Zhang, H.	COLL	778	Zhang, M.	AGRO	16
Zervoudis, N.	POLY	17	Zhang, H.	PMSE	284	Zhang, M.	INOR	330
Zetterberg, F.	MEDI	315	Zhang, H.	POLY	422	Zhang, M.	I&E	59
Zewail-Foote, M.	CHED	17	Zhang, H.	CATL	172	Zhang, M.	ORGN	15
Zewail-Foote, M.	PHYS	43	Zhang, H.	MEDI	24	Zhang, M.	ENVR	530
Zeytunyan, A.	ANYL	361	Zhang, H.	AGFD	162	Zhang, P.	ANYL	93
Zhai, F.	INOR	687	Zhang, H.	ENVR	48	Zhang, P.	ANYL	171
Zhai, Y.	COMP	176	Zhang, H.	MEDI	178	Zhang, P.	ANYL	173

Zhang, P.	ANYL	383	Zhang, X.	ENFL	361	Zhang, Y.	ENFL	495
Zhang, P.	BIOL	88	Zhang, X.	ANYL	392	Zhang, Y.	ANYL	383
Zhang, P.	CATL	17	Zhang, X.	COLL	774	Zhang, Y.	INOR	722
Zhang, P.	COLL	738	Zhang, X.	INOR	764	Zhang, Y.	AGFD	264
Zhang, P.	ENVR	130	Zhang, X.	ORGN	316	Zhang, Y.	AGFD	268
Zhang, P.	PHYS	400	Zhang, X.	PMSE	561	Zhang, Z.	ANYL	420
Zhang, P.	CATL	398	Zhang, X.	CATL	28	Zhang, Z.	CARB	56
Zhang, P.	ENVR	31	Zhang, X.	ENFL	481	Zhang, Z.	AGRO	287
Zhang, P.	ENVR	802	Zhang, X.	CATL	6	Zhang, Z.	ORGN	190
Zhang, P.	I&EC	46	Zhang, X.	CATL	385	Zhang, Z.	PHYS	274
Zhang, P.	INOR	729	Zhang, X.	ENVR	264	Zhang, Z.	POLY	239
Zhang, P.	MEDI	56	Zhang, X.	ENVR	400	Zhang, Z.	ENFL	408
Zhang, Q.	ORGN	673	Zhang, X.	COLL	524	Zhang, Z.	PMSE	112
Zhang, Q.	ENFL	87	Zhang, X.	ANYL	297	Zhang, Z.	ENFL	254
Zhang, Q.	ENFL	147	Zhang, X.	INOR	532	Zhang, Z.	ENFL	255
Zhang, Q.	ENFL	169	Zhang, X.	INOR	100	Zhang, Z.	ENFL	256
Zhang, Q.	PHYS	432	Zhang, X.	BIOL	12	Zhang, Z.	ENFL	257
Zhang, Q.	INOR	552	Zhang, X.	COLL	480	Zhang, Z.	AGFD	226
Zhang, Q.	COLL	38	Zhang, X.	ENFL	76	Zhang, Z.	INOR	367
Zhang, Q.	COLL	409	Zhang, X.	GEOC	46	Zhang, Z.	CATL	446
Zhang, Q.	ENFL	469	Zhang, X.	GEOC	51	Zhang, Z.	PMSE	686
Zhang, Q.	ENVR	685	Zhang, X.	COLL	736	Zhang, Z.	PMSE	783
Zhang, Q.	ENVR	439	Zhang, X.	COMP	84	Zhang, Z.	COLL	227
Zhang, Q.	TOXI	98	Zhang, X.	MEDI	344	Zhang, Z.	MPPG	32
Zhang, Q.	BIOL	170	Zhang, X.	POLY	279	Zhang, Z.	COLL	11
Zhang, R.	CATL	296	Zhang, X.	INOR	159	Zhang, Z.	ENVR	431
Zhang, R.	ENVR	128	Zhang, X.	PHYS	592	Zhang, Z.	INOR	168
Zhang, R.	ENFL	147	Zhang, X.	ENVR	622	Zhang, Z.	PMSE	31
Zhang, R.	ANYL	342	Zhang, X.	COLL	71	Zhang, Z.	PMSE	401
Zhang, R.	ENVR	350	Zhang, X.	CELL	52	Zhang, Z.	PMSE	735
Zhang, R.	AGFD	229	Zhang, X.	ENFL	147	Zhang, Z.	CATL	84
Zhang, S.	ENFL	185	Zhang, X.	POLY	23	Zhang, Z.	AGFD	229
Zhang, S.	ENFL	332	Zhang, X.	ORGN	485	Zhang, L.	ENVR	610
Zhang, S.	AGFD	258	Zhang, X.	COLL	234	Zhang, L.	CATL	84
Zhang, S.	CATL	203	Zhang, Y.	CATL	178	Zhang, S.	PHYS	504
Zhang, S.	ENVR	328	Zhang, Y.	ENFL	161	Zhao, A.	PHYS	196
Zhang, S.	INOR	559	Zhang, Y.	ENFL	265	Zhao, B.	PMSE	586
Zhang, S.	COLL	672	Zhang, Y.	ENFL	235	Zhao, B.	ANYL	378
Zhang, S.	POLY	469	Zhang, Y.	ENFL	478	Zhao, B.	ENFL	408
Zhang, S.	ENVR	395	Zhang, Y.	ENVR	550	Zhao, B.	MEDI	301
Zhang, S.	ENVR	546	Zhang, Y.	ENVR	459	Zhao, B.	POLY	74
Zhang, S.	ENVR	605	Zhang, Y.	COMP	565	Zhao, C.	ENFL	489
Zhang, S.	AGFD	315	Zhang, Y.	ENVR	82	Zhao, C.	ENVR	631
Zhang, S.	CARB	18	Zhang, Y.	ENVR	728	Zhao, C.	ENFL	241
Zhang, S.	MEDI	441	Zhang, Y.	ENVR	730	Zhao, C.	ENFL	147
Zhang, S.	ENVR	647	Zhang, Y.	ENVR	775	Zhao, C.	COLL	645
Zhang, S.	ANYL	39	Zhang, Y.	ENVR	264	Zhao, C.	CATL	285
Zhang, S.	PMSE	264	Zhang, Y.	ENVR	830	Zhao, C.	BIOL	58
Zhang, S.	CATL	227	Zhang, Y.	PHYS	9	Zhao, C.	ANYL	426
Zhang, S.	ENVR	724	Zhang, Y.	PHYS	430	Zhao, C.	COLL	434
Zhang, S.	ENVR	351	Zhang, Y.	ENVR	411	Zhao, C.	COLL	438
Zhang, T.	PMSE	248	Zhang, Y.	CATL	194	Zhao, C.	COLL	567
Zhang, T.	ENFL	284	Zhang, Y.	ENFL	44	Zhao, C.	COLL	698
Zhang, T.	INOR	119	Zhang, Y.	MEDI	150	Zhao, C.	INOR	579
Zhang, T.	INOR	121	Zhang, Y.	BIOL	89	Zhao, C.	MPPG	67
Zhang, T.	MEDI	279	Zhang, Y.	AGFD	72	Zhao, C.	MPPG	70
Zhang, T.	ENVR	5	Zhang, Y.	CATL	355	Zhao, C.	PMSE	227
Zhang, W.	ANYL	365	Zhang, Y.	MEDI	108	Zhao, C.	PMSE	617
Zhang, W.	ENVR	156	Zhang, Y.	AGFD	153	Zhao, C.	INOR	326
Zhang, W.	ENVR	411	Zhang, Y.	INOR	728	Zhao, C.	ANYL	95
Zhang, W.	MEDI	333	Zhang, Y.	COLL	630	Zhao, C.	ENVR	602
Zhang, W.	MEDI	380	Zhang, Y.	COLL	783	Zhao, D.	PMSE	744
Zhang, W.	PHYS	224	Zhang, Y.	PMSE	415	Zhao, D.	ORGN	644
Zhang, W.	PMSE	22	Zhang, Y.	PMSE	466	Zhao, E.	COLL	350
Zhang, W.	POLY	5	Zhang, Y.	PMSE	570	Zhao, E.	COLL	489
Zhang, W.	POLY	210	Zhang, Y.	PMSE	806	Zhao, E.	TOXI	88
Zhang, W.	MEDI	282	Zhang, Y.	INOR	575	Zhao, E.	CATL	243
Zhang, W.	ENVR	412	Zhang, Y.	PMSE	200	Zhao, F.	ENFL	478
Zhang, W.	ENVR	285	Zhang, Y.	COLL	632	Zhao, F.	ANYL	23
Zhang, W.	ENVR	537	Zhang, Y.	COLL	677	Zhao, F.	MEDI	279
Zhang, W.	PMSE	600	Zhang, Y.	ANYL	263	Zhao, G.	COLL	616
Zhang, W.	POLY	248	Zhang, Y.	I&EC	35	Zhao, G.	ORGN	171
Zhang, W.	COLL	541	Zhang, Y.	AGRO	206	Zhao, G.	ORGN	177
Zhang, W.	BIOL	104	Zhang, Y.	BIOL	309	Zhao, G.	COLL	414
Zhang, W.	ENVR	18	Zhang, Y.	COLL	745	Zhao, G.	ENVR	191
Zhang, W.	ENVR	250	Zhang, Y.	COMP	475	Zhao, G.	ENVR	459
Zhang, W.	ENVR	770	Zhang, Y.	ENFL	532	Zhao, G.	ENVR	526
Zhang, W.	ENVR	819	Zhang, Y.	ENVR	154	Zhao, G.	ENVR	597
Zhang, W.	MEDI	61	Zhang, Y.	INOR	105	Zhao, G.	ENVR	673
Zhang, W.	PMSE	809	Zhang, Y.	INOR	635	Zhao, G.	ENVR	766
Zhang, W.	ANYL	203	Zhang, Y.	INOR	754	Zhao, H.	PMSE	683
Zhang, W.	ANYL	205	Zhang, Y.	ORGN	399	Zhao, H.	PHYS	533
Zhang, W.	ENFL	456	Zhang, Y.	ENVR	587	Zhao, H.	POLY	541
Zhang, W.	PMSE	746	Zhang, Y.	ENVR	693	Zhao, H.	AGFD	204
Zhang, W.	AGRO	138	Zhang, Y.	ENVR	762	Zhao, H.	CATL	111
Zhang, W.	PMSE	42	Zhang, Y.	INOR	450	Zhao, H.	ENVR	122
Zhang, X.	ANYL	172	Zhang, Y.	ENVR	327	Zhao, H.	ENVR	193
Zhang, X.	ANYL	392	Zhang, Y.	CATL	41	Zhao, H.	MEDI	294
Zhang, X.	ANYL	393	Zhang, Y.	ENVR	426	Zhao, H.	ENVR	3
Zhang, X.	POLY	392	Zhang, Y.	ENFL	228	Zhao, J.	BIOL	219
Zhang, X.	ENVR	705	Zhang, Y.	PHYS	429	Zhao, J.	COLL	582
Zhang, X.	INOR	304	Zhang, Y.	PHYS	492	Zhao, J.	ENVR	601
Zhang, X.	CATL	155	Zhang, Y.	PMSE	621	Zhao, J.	MEDI	294
Zhang, X.	CATL	284	Zhang, Y.	PMSE	724	Zhao, J.	POLY	240

Zhao, J.	POLY	516	Zheng, G.	PMSE	356	Zhong, W.	ANYL	232
Zhao, J.	CARB	75	Zheng, H.	PHYS	46	Zhong, W.	ANYL	470
Zhao, J.	ENVR	795	Zheng, H.	PHYS	562	Zhong, W.	TOXI	68
Zhao, J.	INOR	116	Zheng, H.	CATL	303	Zhong, Y.	ANYL	19
Zhao, J.	ENVR	539	Zheng, H.	PHYS	361	Zhong, Y.	ANYL	211
Zhao, K.	ANYL	208	Zheng, J.	AGFD	49	Zhong, Y.	CATL	33
Zhao, K.	MEDI	281	Zheng, J.	ANYL	509	Zhong, Y.	ENFL	150
Zhao, L.	ANYL	311	Zheng, J.	COLL	56	Zhong, Y.	POLY	411
Zhao, L.	ENVR	350	Zheng, J.	COLL	61	Zhou, B.	ENVR	208
Zhao, L.	TOXI	101	Zheng, J.	COLL	392	Zhou, C.	ENVR	248
Zhao, L.	AGFD	276	Zheng, J.	COLL	542	Zhou, C.	ENFL	56
Zhao, L.	AGRO	288	Zheng, J.	INOR	583	Zhou, C.	ENFL	457
Zhao, M.	AGRO	286	Zheng, J.	PHYS	124	Zhou, C.	ENFL	36
Zhao, M.	ENFL	83	Zheng, J.	PHYS	563	Zhou, C.	ENVR	61
Zhao, M.	ENVR	296	Zheng, L.	ENVR	19	Zhou, F.	AGFD	19
Zhao, M.	ENVR	297	Zheng, L.	ENVR	755	Zhou, F.	ENFL	113
Zhao, M.	ENVR	369	Zheng, L.	PHYS	281	Zhou, G.	ENVR	394
Zhao, P.	COLL	539	Zheng, M.	INOR	662	Zhou, G.	PROF	41
Zhao, Q.	CATL	304	Zheng, M.	ENVR	636	Zhou, H.	ANYL	114
Zhao, Q.	COMP	167	Zheng, M.	ENVR	831	Zhou, H.	ORGN	489
Zhao, Q.	COMP	230	Zheng, M.	AGRO	335	Zhou, H.	MEDI	21
Zhao, Q.	POLY	543	Zheng, N.	ORGN	483	Zhou, H.	ENFL	11
Zhao, R.	ENVR	681	Zheng, Q.	MEDI	379	Zhou, H.	ENFL	14
Zhao, R.	INOR	132	Zheng, S.	CHED	442	Zhou, H.	ENFL	26
Zhao, S.	PMSE	774	Zheng, S.	GEOC	51	Zhou, H.	COLL	623
Zhao, S.	AGRO	141	Zheng, S.	ENVR	685	Zhou, H.H.	COMP	61
Zhao, S.	AGRO	278	Zheng, T.	ENVR	496	Zhou, H.	CATL	42
Zhao, S.	MEDI	192	Zheng, W.	COLL	224	Zhou, H.	ENVR	130
Zhao, S.	ANYL	272	Zheng, W.	COLL	245	Zhou, H.	INOR	124
Zhao, S.	I&EC	59	Zheng, W.	COLL	376	Zhou, H.	INOR	365
Zhao, S.	ENFL	103	Zheng, X.	ENVR	80	Zhou, H.	INOR	525
Zhao, T.	ANYL	385	Zheng, X.	ENVR	434	Zhou, H.	INOR	715
Zhao, T.	PHYS	358	Zheng, X.	ENFL	212	Zhou, H.	INOR	728
Zhao, T.	PHYS	459	Zheng, X.	COLL	746	Zhou, H.	COMP	232
Zhao, W.	ANYL	155	Zheng, X.	ANYL	390	Zhou, H.	ENVR	697
Zhao, W.	AGFD	81	Zheng, Y.	ENFL	284	Zhou, H.	MEDI	24
Zhao, W.	INOR	248	Zheng, Y.	INOR	162	Zhou, H.	MEDI	342
Zhao, X.	ENVR	296	Zheng, Y.	INOR	498	Zhou, H.	ORGN	4
Zhao, X.	ENFL	76	Zheng, Y.	PMSE	87	Zhou, H.	ENFL	362
Zhao, X.	MEDI	286	Zheng, Y.	ENVR	136	Zhou, H.	ANYL	19
Zhao, X.	ENVR	622	Zheng, Y.	MEDI	307	Zhou, J.	MEDI	62
Zhao, X.	INOR	238	Zheng, Y.	CATL	356	Zhou, J.	MEDI	264
Zhao, X.	COMP	555	Zheng, Y.	PMSE	323	Zhou, J.	ENFL	461
Zhao, Y.	POLY	439	Zheng, Y.	BIOL	308	Zhou, J.	COLL	56
Zhao, Y.	PMSE	8	Zheng, Z.	COLL	754	Zhou, J.	ENVR	824
Zhao, Y.	COLL	62	Zheng, Z.	COLL	769	Zhou, J.	POLY	342
Zhao, Y.	ENVR	535	Zheng, Z.	COMP	448	Zhou, J.	COLL	703
Zhao, Y.	ANYL	249	Zheng, Z.	COMP	493	Zhou, J.	MEDI	200
Zhao, Y.	CATL	198	Zheng, Z.	TOXI	57	Zhou, J.	AGFD	199
Zhao, Y.	COMP	485	Zheng, Z.	INOR	162	Zhou, J.	ENFL	349
Zhao, Y.	AGFD	233	Zhengjiang, S.	CATL	344	Zhou, J.	ENFL	267
Zhao, Y.	ANYL	392	Zhenglu, W.	ENVR	692	Zhou, J.	CARB	72
Zhao, Y.	BIOL	95	Zhi, B.	ENVR	73	Zhou, L.H.	CHED	139
Zhao, Y.	CATL	378	Zhi, Y.	ENVR	44	Zhou, M.	INOR	412
Zhao, Y.	CATL	379	Zhi, Y.	ENVR	181	Zhou, P.	ORGN	360
Zhao, Y.	ENFL	283	Zhi, Y.	ENVR	775	Zhou, Q.	ENVR	268
Zhao, Y.	ENFL	461	Zho, C.	COMP	35	Zhou, Q.	POLY	395
Zhao, Y.	CATL	268	Zhong, C.	PMSE	592	Zhou, Q.	POLY	28
Zhao, Y.	ENVR	143	Zhong, C.	ANYL	97	Zhou, Q.	ENVR	687
Zhao, Z.	INOR	556	Zhong, C.	ANYL	168	Zhou, Q.	ENVR	694
Zhao, Z.	COMP	277	Zhong, C.	ANYL	177	Zhou, Q.	ENVR	696
Zhao, Z.	ENFL	456	Zhong, C.	ANYL	407	Zhou, R.	COMP	490
Zhao, Z.	CATL	484	Zhong, C.	CATL	19	Zhou, R.	INOR	391
Zhao, Z.	ENFL	331	Zhong, C.	CATL	339	Zhou, S.	CATL	75
Zhao, Z.	PMSE	87	Zhong, C.	CATL	474	Zhou, S.	COLL	765
Zhao, Z.	ANYL	88	Zhong, C.	COLL	298	Zhou, S.	COLL	541
Zhao, Z.	ANYL	142	Zhong, C.	COLL	303	Zhou, S.	AGFD	72
Zhao, Z.	INOR	103	Zhong, C.	ENFL	251	Zhou, T.	ENVR	758
Zhao, Z.	INOR	493	Zhong, C.	ENFL	252	Zhou, T.	INOR	280
Zharov, I.	INOR	271	Zhong, C.	ENFL	547	Zhou, T.	COMP	32
Zhavoronkov, A.	COMP	96	Zhong, C.	ENVR	30	Zhou, T.	TOXI	84
Zhemera, A.	COMP	95	Zhong, C.	ENVR	555	Zhou, W.	CATL	153
Zhen, J.	COMSCI	8	Zhong, C.	ENVR	556	Zhou, W.	INOR	363
Zhen, Q.	ENFL	545	Zhong, C.	ENVR	606	Zhou, W.	PHYS	568
Zhen, Q.	ENFL	546	Zhong, C.	ENVR	607	Zhou, X.	AGRO	82
Zhen, X.	ENVR	84	Zhong, C.	ENVR	652	Zhou, X.	ANYL	67
Zhen, Z.	COLL	541	Zhong, C.	I&EC	29	Zhou, X.	ENVR	40
Zheng, J.	CINF	131	Zhong, C.	I&EC	50	Zhou, X.	ENFL	554
Zheng, K.	ANYL	297	Zhong, C.	INOR	491	Zhou, X.	ENFL	305
Zheng, B.	PMSE	798	Zhong, C.	INOR	723	Zhou, X.	ANYL	125
Zheng, B.	AGFD	229	Zhong, D.	PHYS	145	Zhou, X.	ENVR	535
Zheng, B.	PMSE	435	Zhong, H.	PHYS	421	Zhou, X.	ENFL	235
Zheng, B.	PMSE	435	Zhong, H.	ENFL	66	Zhou, X.	ENFL	478
Zheng, B.	PMSE	564	Zhong, H.	ENFL	133	Zhou, X.	ENVR	550
Zheng, D.	NUCL	17	Zhong, H.	ENFL	136	Zhou, X.	PHYS	6
Zheng, E.	ENFL	508	Zhong, H.	ENFL	336	Zhou, Y.	POLY	514
Zheng, F.	ENFL	80	Zhong, M.	POLY	220	Zhou, Y.	ENVR	81
Zheng, G.	COLL	30	Zhong, M.	POLY	233	Zhou, Y.	POLY	201
Zheng, G.	COLL	60	Zhong, M.	POLY	240	Zhou, Y.	BIOL	64
Zheng, G.	COLL	166	Zhong, M.	ENVR	86	Zhou, Y.	ENFL	279
Zheng, G.	COLL	380	Zhong, Q.	ENFL	233	Zhou, Y.	ENFL	357
Zheng, G.	COLL	454	Zhong, Q.	ENVR	546	Zhou, Y.	CELL	45
Zheng, G.	COLL	462	Zhong, Q.	ENVR	605	Zhou, Y.	POLY	539
Zheng, G.	COLL	512	Zhong, S.	ENVR	833	Zhou, Y.	POLY	544

Zhou, Y.	ORGN	675	Zhu, Q.	ENVR	397	Zlatkin, A.	CHED	345
Zhou, Y.	COMP	386	Zhu, Q.	ORGN	26	Zlibut, E.	PMSE	715
Zhou, Y.	ENFL	330	Zhu, Q.	PMSE	527	Zlotkowski, K.	ORGN	204
Zhou, Y.	MEDI	372	Zhu, R.	ORGN	421	Zofchak, E.	PMSE	459
Zhou, Y.	CATL	256	Zhu, S.	ENFL	122	Zofchak, E.	POLY	582
Zhou, Y.	PMSE	589	Zhu, S.	ANYL	313	Zoghieb, F.	INOR	736
Zhou, Y.	CATL	400	Zhu, S.	ENVR	441	Zografos, A.	COLL	413
Zhou, Z.	ENFL	83	Zhu, S.	ENVR	466	Zoll, A.	INOR	166
Zhou, Z.	ENVR	659	Zhu, S.	ENVR	563	Zona, C.	PROF	26
Zhou, Z.	ENFL	310	Zhu, S.	CATL	121	Zong, C.	PHYS	63
Zhou, Z.	INOR	142	Zhu, T.	COMP	14	Zong, M.	PMSE	770
Zhou, Z.	INOR	157	Zhu, T.	ENFL	239	Zong, Y.	PMSE	807
Zhou, Z.	INOR	341	Zhu, W.	ENFL	118	Zong, Z.	ENFL	494
Zhou, Z.	PMSE	10	Zhu, W.	INOR	19	Zora, M.	ORGN	61
Zhou, Z.	COLL	617	Zhu, W.	CATL	283	Zora, M.	ORGN	583
Zhou, Z.	COLL	781	Zhu, X.	MEDI	70	Zora, M.	ORGN	588
Zhu, A.	PMSE	529	Zhu, X.	ENVR	794	Zorigt, N.	ORGN	136
Zhu, B.	CATL	27	Zhu, X.	CATL	357	Zorn, K.M.	COMP	529
Zhu, B.	ENVR	2	Zhu, X.	ENFL	453	Zorn, K.M.	MEDI	32
Zhu, B.	INOR	66	Zhu, X.	ENFL	515	Zorn, K.M.	MEDI	114
Zhu, B.	MEDI	389	Zhu, X.	ENVR	426	Zorn, K.M.	MEDI	231
Zhu, B.	ORGN	231	Zhu, X.	ANYL	464	Zorn, K.M.	SCHB	11
Zhu, B.	TOXI	99	Zhu, X.	TOXI	76	Zorn, K.M.	TOXI	86
Zhu, B.	ANYL	201	Zhu, X.	ENFL	390	Zornjak, J.	COLL	230
Zhu, C.	NUCL	39	Zhu, X.	PHYS	146	Zoski, C.G.	ANYL	435
Zhu, C.	ANYL	478	Zhu, X.	PHYS	520	Zotev, N.	PHYS	9
Zhu, C.	ORGN	261	Zhu, X.	ENVR	141	Zotev, N.	PHYS	11
Zhu, C.	ORGN	408	Zhu, X.	ENVR	221	Zotev, N.	PHYS	336
Zhu, C.	PMSE	267	Zhu, X.	CATL	203	Zou, G.	ANYL	110
Zhu, C.	INOR	381	Zhu, X.	CATL	268	Zou, J.	BIOL	206
Zhu, C.	PMSE	161	Zhu, Y.	COLL	574	Zou, J.	CATL	284
Zhu, D.	PMSE	740	Zhu, Y.	COLL	636	Zou, J.	ENFL	361
Zhu, D.	BIOL	314	Zhu, Y.	CATL	396	Zou, N.	MEDI	426
Zhu, D.	PHYS	57	Zhu, Y.	COMP	58	Zou, Q.	ENFL	35
Zhu, D.	ENVR	8	Zhu, Y.	AGFD	25	Zou, Q.	GEOC	14
Zhu, E.	COLL	120	Zhu, Y.	ENVR	610	Zou, S.	ENFL	330
Zhu, E.	ENFL	262	Zhu, Y.	ENVR	611	Zou, X.	POLY	441
Zhu, F.	ORGN	465	Zhu, Y.	ANYL	45	Zou, Y.	PMSE	327
Zhu, F.	ORGN	467	Zhu, Y.	ENFL	64	Zou, Z.	ANYL	365
Zhu, F.	INOR	166	Zhu, Y.	ENFL	174	Zou, Z.	CATL	283
Zhu, G.	ENFL	369	Zhu, Z.	POLY	47	Zou, Z.	ENFL	267
Zhu, G.	I&EC	24	Zhu, Z.	ANYL	74	Zowada, C.	CHED	372
Zhu, G.	I&EC	25	Zhu, Z.	ENVR	610	Zozulia, O.	BIOL	97
Zhu, G.	PHYS	460	Zhu, Z.	ENVR	611	Zu, C.	AGRO	133
Zhu, H.	COLL	265	Zhuang, J.	PMSE	815	Zu, C.	AGRO	204
Zhu, H.	ENFL	267	Zhuang, M.	INOR	321	Zu, C.	AGRO	225
Zhu, H.	CELL	21	Zhuang, M.	PMSE	626	Zu, F.	AGFD	257
Zhu, H.	CELL	64	Zhuang, P.	WCC	6	Zubarev, E.	COLL	244
Zhu, H.	ENFL	84	Zhuang, W.	PHYS	94	Zubarev, Y.	INOR	136
Zhu, H.	ENFL	94	Zhukhovitskiy, A.V.	INOR	88	Zubi, T.	COLL	281
Zhu, H.	ENVR	336	Zhukhovitskiy, A.V.	PMSE	379	Zubriene, A.	MEDI	383
Zhu, H.	AGFD	153	Zhukhovitskiy, A.V.	PMSE	612	Zucker, I.	ENVR	159
Zhu, H.	ANYL	117	Zhukhovitskiy, A.V.	POLY	231	Zucker, I.	ENVR	216
Zhu, H.	MEDI	302	Zhuo, L.	PMSE	754	Zucker, I.	ENVR	461
Zhu, H.	POLY	241	Zhuo, M.	CARB	51	Zuckerman, L.A.	ENVR	529
Zhu, H.	CATL	454	Zhuo, M.	INOR	739	Zuckerman, L.A.	INOR	516
Zhu, J.	CARB	117	Ziadkhanpour, K.	MEDI	175	Zuehlsdorff, T.J.	COMP	514
Zhu, J.	ENVR	709	Ziaee, F.	PHYS	318	Zuercher, W.	MEDI	160
Zhu, J.	COLL	110	Ziaee, F.	PHYS	440	Zukas, W.	PMSE	479
Zhu, J.	COLL	483	Zibinsky, M.	MEDI	26	Zukas, W.	POLY	448
Zhu, J.	CATL	88	Ziegler, C.J.	INOR	103	Zuleta Suarez, E.C.	ENFL	363
Zhu, J.	ORGN	519	Ziegler, C.J.	INOR	493	Zumbach, M.	ANYL	246
Zhu, J.	AGFD	210	Ziegler, D.	POLY	452	Zürmüt, H.	ANYL	379
Zhu, J.	COMP	266	Ziegler, G.	AGFD	185	Zuniga, C.S.	AGRO	226
Zhu, J.	MEDI	282	Ziegler, R.	ORGN	267	Zuo, J.	MEDI	146
Zhu, J.	CATL	192	Zificsak, C.A.	MEDI	358	Zuo, K.	ENVR	417
Zhu, J.	COLL	796	Zijlstra, D.	CELL	11	Zuo, K.	ENVR	418
Zhu, J.	ANYL	68	Ziller, J.W.	INOR	425	Zuo, K.	ENVR	419
Zhu, J.	ANYL	316	Ziller, J.W.	INOR	429	Zuo, Y.	AGFD	257
Zhu, J.	CATL	477	Zimanyi, G.	COMP	82	Zuo, Y.	ENVR	568
Zhu, J.	COMP	326	Zimdars, P.	ORGN	461	Zupko, R.	ENVR	286
Zhu, K.	MEDI	308	Zimmer, H.W.	CHED	23	Zurek, E.	COMP	1
Zhu, K.	ORGN	18	Zimmer, J.A.	MEDI	330	Zurek, E.	PHYS	305
Zhu, L.	PMSE	31	Zimmerer, E.	CATL	300	Zurek, E.	PHYS	307
Zhu, L.	PMSE	67	Zimmerman, J.B.	ENVR	214	Zurek, E.	PHYS	587
Zhu, L.	PMSE	401	Zimmerman, J.B.	ENVR	380	Zurier, H.S.	AGFD	289
Zhu, L.	PMSE	529	Zimmerman, J.B.	ENVR	421	Zvarych, V.	MEDI	402
Zhu, L.	PMSE	735	Zimmerman, M.	ENFL	517	Zvonkina, I.	PMSE	259
Zhu, L.	PMSE	736	Zimmerman, P.M.	COMP	275	Zvonok, N.	MEDI	60
Zhu, L.	PMSE	739	Zimmerman, P.M.	COMP	282	Zwickau, B.	CHED	358
Zhu, L.	PHYS	186	Zimmerman, P.M.	PHYS	351	Zwier, T.S.	PHYS	175
Zhu, L.	ENFL	505	Zimmerman, S.C.	POLY	227	Zwolak, M.	COLL	312
Zhu, L.	ENVR	375	Zimmerman, S.C.	POLY	479	Zwolak, M.	COMP	118
Zhu, L.	ENVR	213	Zimmerman, T.	AGFD	78	Zydney, A.L.	ENVR	541
Zhu, L.	ENVR	413	Zimmerman, T.	AGFD	133	Zygmunt, S.E.	CHED	43
Zhu, L.	ENVR	6	Zimmerman, T.	AGFD	134	Zygmunt, S.E.	CHED	249
Zhu, L.	MEDI	21	Zimmerman, T.	BIOL	240			
Zhu, L.	ENVR	426	Zinser, J.M.	CHED	292			
Zhu, M.	COLL	492	Zinsky, A.	ORGN	624			
Zhu, M.	COLL	651	Zites, D.C.	BIOL	101			
Zhu, M.	CATL	414	Zites, D.C.	MEDI	247			
Zhu, M.	ENVR	795	Ziurys, L.M.	PHYS	556			
Zhu, P.	MEDI	282	Ziurys, L.M.	PHYS	557			
Zhu, Q.	ENVR	109	Zivkovich, V.	PMSE	416			

CHEMISTRY

An astronaut in a white space suit is shown floating in space, surrounded by vibrant, multi-colored particle trails in shades of purple, pink, and blue. The astronaut is positioned in the lower center of the frame, looking towards the viewer.

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